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IMPERIAL GAS IRONS

Quick sales — rapid turnover — generous profit — lasting good-will all result from featuring Imperial Gas Irons. Over two and one-half millions now in use and average sales of 2,500 weekly, over a long period, is conclusive proof of their popularity.

This marvelous sales record was made possible by our unique and impressive method of making known The Seven Exclusive Features found in The Imperial only.

Our successful method will be taught your own sales organization, which will not only make selling easy, but will also help in the sale of other gas appliances as well.

Let us tell you about our special merchandising plans and send you a sample iron. You will then readily see why we can make such extraordinary sales with such an extraordinary iron as The Imperial.

See The Seven Exclusive Features in Booth 78
A. G. A. Convention

GENERAL SPECIALTY COMPANY

455 Eleventh Avenue
New York City

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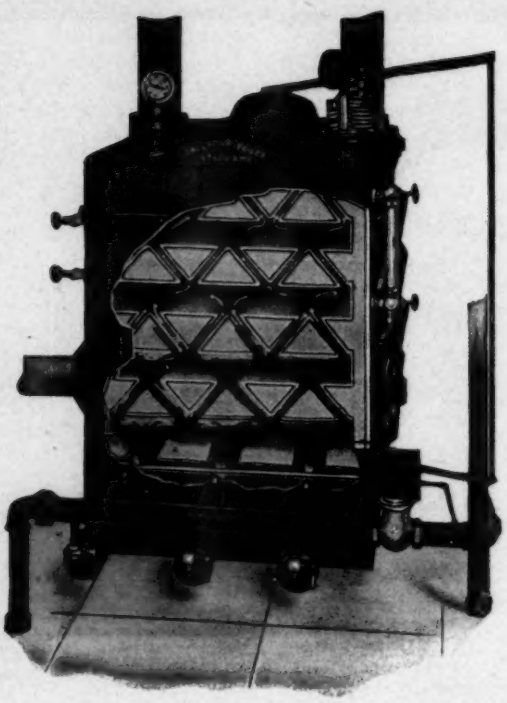
Other Gas Companies Are Doing It!



Send for our booklet and terms and learn how Gallaher Gas-Fired Boilers will increase both Volume Sendout and Profit.

TO educate the masses to the convenience, cleanliness, economy, wastelessness, safety and all the other virtues of house heating by gas, will take time and patience; but if the start is not made the goal will never be reached.

Yet there are some gas companies who have approached the house-heating-by-gas problem in an earnest, systematic manner; notably, The Laclede Gas Light Co. of St. Louis, who have surmounted all of the difficulties and whose efforts have been entirely successful.

The present time is most propitious for forcibly presenting the advantages of heating by gas, on account of the unsettled conditions in the coal industry with the possible shortage of this fuel next winter, and householders are therefore in a more receptive mood for improved gas appliances, such as the Gallaher Boiler and Storage Tank Heater.

GALLAHER GAS-FIRED TUBULAR BOILERS for Hot Water, Vapor and Steam Heating when shown, lower the sales resistance to this type of house heating and make easy the introduction of gas into a new realm of usefulness; to the satisfaction of the customer and profit of the gas company.

GALLAHER BOILER CO.

Laclede Gas Building, St. Louis, Mo.

AMERICAN
GAS JOURNAL

Vol. 121. No. 13 NEW YORK, SEPTEMBER 27, 1924 Whole No. 3483

Public Relations

Plans to promote better understanding between Utilities and the Communities they serve

John F. Weedon

Supt. Advertising Department, The Peoples Gas Light and Coke Company, Chicago.

THE phrase "Public Utility" has found its way into the dictionary only within the last thirty years. It is applied to a company that supplies a community with some service which the individuals of that community cannot, to good advantage, supply for themselves. A Utility company has three distinct groups of people to satisfy; the public, the stockholders, and the people who work for it.

Problems of Public Utilities

The outstanding problems of Utility Companies have generally been believed to be either those concerning the engineering features of the business, or matters of a legal nature. This has frequently led to choosing either an engineer or a lawyer as the principal and, in many cases, the sole directing head of the company. The selection would naturally fall on a high-class man in either of these particular fields, and, generally speaking, the more highly trained a man is along specialized lines, the less qualified he is fully to understand and cope with the problems which are now coming to be identified and classed as "Public Relations."

Proper and satisfactory Public Relations are as essential to the welfare of a Public Utility as are matters of finance, machinery, and good legal standing. They cannot be conducted as a "side-line" by anyone whose time and attention is mostly occupied with other matters. It is such "hit or miss" methods that have led to the misunderstanding and lack of approval with which, in so many communities, the public regards its local utility companies at the present time. Public Utility machinery will never work "sweetly" unless it is kept continuously and properly lubricated by intelligent and rightly directed publicity and advertising.

This can be obtained only by the appointment of a thoroughly qualified man, with full power to act in all matters concerning direct and indirect contact with the public.

A Director of Public Relations Needed

Every company has many fields of contact with its customers; from the people who come to its offices to transact business to those into whose homes its workmen go in the performance of their duties. All these "contacts" must be considered and coordinated, and that cannot be done when authority in matters of conduct is vested in various heads of departments.

A Director of Public Relations should be a recognized officer of every company, fully authorized to regulate the conducting of all "contacts" between the company's employees and the public.

Some companies have such an officer, but very few have, as yet, sufficiently realized the importance of the position to place the name of the person who fills it in directories, or other printed lists of company officials. Persons wishing to correspond with the company on matters pertaining to Public Relations have to make a "blind bet" and address their communication to the president, secretary, or some other officer, who may, or may not, have the requisite qualifications to deal with the subject.

Obviously there are many things necessary to build up and maintain a satisfactory relationship between the Utility and the community it serves. Some of these can, and should be done, concurrently; others accrue as improved relations create opportunity. However, we will have to consider them one at a time. The first, of course, is good service, which we dismiss on the assumption that practically all Utility companies are now giving the public as good service as the times, circumstances and local conditions permit. We will therefore consider first

mit. We will therefore consider first

The People on the Pay Roll

Satisfactory relations with employees are absolutely necessary to better business relations with the public. No matter how good your machinery and service may be, you had better have a bad epitaph than the ill-repute of the people on your pay roll.

Men, in the mass, are all pretty much alike. The characteristics of a couple of thousand of men working for one company are practically the same as the characteristics of an equal number of men working for some other company; but there is often a marked difference in the way they act.

This is merely a reflex of the treatment they are accorded by their superiors in office. No greater truth was ever uttered than that "all large institutions are the lengthened shadow of one big man." The measure of success, therefore, depends almost entirely on the quality of the man who is the directing head of the company.

Public Utility Employees Stay Loyal

Employees of a Public Utility very frequently spend their entire working life in the service of one company. This is not necessarily due to favorable conditions of employment, good pay, short hours, pleasant work, and so forth; because, as any old-time Utility man can tell you, it was a fact long before any of these things were concomitants of the job. There seems to be a sort of "urge" in the minds of some men that sends them into some form of Public Service, and holds them there. Terence Mulvaney says: "The arr-my, me bhoy, is mate and drink to me. I couldn't lave it and live." But what Terence thought of his superior officers and the way they ran things was not always fit to repeat. Something of the same spirit seems to pervade the mind of the typical "public service man." Whatever he may think of his superintendent, or indeed the whole directory of officers and managers, he will almost always be found unswervingly loyal to the industry he serves.

Loyal to the Service

It is outside of the scope of this present article, but a good story could be written on the devotion of public service men and women to their work, when fire, floods or violent storms in winter or summer have rendered some ordinarily non-hazardous occupation dangerous and deadly.

Memory reverts to "This is my last message" sent by Mrs. H. M. Ogle, manager of the Johnstown telegraph office, just before she was swept away in the flood of 1889—and then jumps to the gas men at Beardstown, Illinois, who stuck to their jobs for several days in 1921, momentarily threatened with a watery grave, and protected only by a hastily constructed dam of sand bags. Enough similar incidents, between these dates, could be found to fill a volume. They are only mentioned here to draw attention to the fact that the public service man, or woman, no matter to what department of public service he or she is attached, is fundamentally sound in devotion to that service.

This fact is a favorable foundation upon which to build substantial and satisfactory industrial relations, without which better public relations cannot be sustained.

Liberal Treatment a Paying Investment

A public utility should pay its people fully as much money as any other industry pays for similar classes of work, taking into due consideration special privileges, continuity of employment, and other matters of definite value.

Working conditions, hours of employment, etc., should be arranged to give the maximum of convenience to the worker.

Wherever possible a general club should be formed for social gatherings, entertainments and meetings where informative talks relative to the business can be given. These meetings should be organized and conducted by the active members of the club, but managers and superintendents should not make themselves conspicuous by their absence.

Every utility company should have an employees' magazine, published by and for employees. Ample space should be set aside for departmental personals; it is a very common human weakness to like to see one's name in print. Considerable latitude in choice and treatment of subjects should be allowed the editor. Men are not so intensely keen on "strictly business" as are the managers. The paper will be more eagerly read if it is strongly flavored with what the readers want, rather than what some one may think they ought to want. In any event it must be entertaining as well as informative.

Let Workers Help Manage

A well devised and liberally conducted "Employees' Representation Plan" is comparable to a good republican form of government. Every utility company should have some such plan. Employees should elect their own delegates, and absolute freedom of speech, without prejudice, should be assured every delegate. Every question raised should be duly and impartially discussed and answered with reason within a reasonable time.

Nothing else a company can do in any direction will so quickly, surely and satisfactorily establish complete and harmonious relations between the management and the employees as a well organized employees' representation plan.

Correlated Activities of and for Employees

Proper organization can also bring about many activities that are advantageous to the people on the

(Continued on page 892)

Gas Making from a High Volatile Smoky Coal*

Low temperature distillation process yields good results

W. E. Giles and F. C. Vilbrandt

University of North Carolina, Chapel Hill, N. C.

This low-temperature distillation study of the Farmville coals of North Carolina indicates that this excessively smoky and high volatile coal can be converted into commercial gas and a low volatile residue suitable for domestic consumption. The presence in the coal of complex paraffin hydrocarbons easily liberated at low temperatures is given as the cause for the smoke-producing tendencies and for the characteristic atmospheric disintegration of this coal in storage.

THE coal from the Farmville mines of the Deep River Valley field of east-central North Carolina is rated as a good gas coal with respect to its volatile matter. The Farmville coal falls in this class if only volatile matter is considered, but its oxygen to hydrogen ratio is 1:1. No studies are recorded that show any data on laboratory or plant tests on the applicability of this coal for such purposes as gas coals.

Nature of Coal

The outstanding characteristic of this coal is that of giving off excessive amounts of smoke and frequent "flare backs." On this account it is in disfavor as a household fuel. It is said that the use of this particular coal on the fleet blockade runners of the Confederacy enabled the Union forces to spot and capture them readily because of the large amount of smoke pouring from the stacks. The engineers on locomotives using this coal claim that the flues become quite clogged with the soot and also with some fine coal dust accompanying the soot. The fines thus produced are the result of disintegration of the coal on being heated, for the coal shows this property of disintegrating from lump into fines on exposure to the air.

Character of the Investigation

Inasmuch as the coal as mined cannot be used efficiently either in the boiler room or in the homes, some heat treatment is necessary to convert the 100,000,000 tons that are in sight into illuminating gas and the residue into coke, which is finding much favor in the households at the present time. In addition to the above, further studies were outlined to investigate the smoke-producing tendencies of this coal, which is notorious in this characteristic. The coal was subjected to a series of low-temperature distillations in a large retort at temperatures maintained constant by electrical control. The products obtained at these low temperatures, which ranged from 200 to 660 deg. C., were carefully analyzed.

Raw Material

The coal used in this investigation came from the Farmville mines of the Deep River coal field, comprising parts of Chatham, Moore and Lee counties, North Carolina. The sample used in this investigation was a face sample taken from different parts of the mine. The coal is brilliant black, retaining its luster on pulverizing; the fracture is conchoidal. Sulfur appears mainly as "ball" sulfur. When mined the coal is hard and lumpy, but on exposure to the air it disintegrates after a short time to "fines," leaving but a small portion as lumps.

Apparatus

In order to maintain the different temperatures accurately and for long periods of time, an electric furnace was built with electrical control. The furnace was of sufficient size to hold a retort of 1 kg. capacity.

The retort (Fig. 1) was made of 3.2-mm. (⅛-inch) steel, electrowelded 152 × 102 × 254 mm. (6× 4 × 10 inches) inside dimensions, calculated to hold 1 kg. of the coal. On using the coal that was screened to pass 13-mm. (½-inch) mesh and be retained on the 3.2-mm. (⅛-inch) mesh, there remained an insufficient air space above the charge, so the charge was made to equal 907 grams (2 pounds). The top of the retort was made of 13-mm. (½-inch) steel provided with holes to bolt the top to the container and also with three holes, one for charging, one for the pyrometer well, and the third for the stillhead, for carrying off the gases and the volatile matter. The condenser system consisted of a tar trap with a tapping petcock at the bottom, and three glass condensers sealed into a unit with glass-blown joints. Receivers were supplied at the bottom of each condenser. The gases were collected over water containing sulfuric acid. The entire set-up consisted of the electric furnace, a steel retort, stillhead, tar trap, three glass condensers, four glass receivers, and a gasometer.

(Continued on page 889)

*From Industrial and Engineering Chemistry, August, 1924.

What About House Heating?

The answers to several pertinent questions on the subject

H. E. G. Watson

WHEREVER two or three gas men are gathered and are discussing problems relating to our industry, you may be sure sooner or later someone will ask the question which I have taken as the title for this paper. It is a question that day by day is becoming more and more a live issue with us. Probably because I have had something to do with a few heating installations, this question and others relating to the same subject are frequently asked me. I will take some of the more common ones, and will try briefly to give some sort of an intelligent answer.

Can We Heat a House With Gas?

This sounds like foolish question number one, but it is one frequently asked, especially by people outside of the gas industry. Of course, the answer is in the affirmative. House heating has been done for years in natural gas districts, and has been done with manufactured gas successfully and extensively in Baltimore, in cities on the Pacific Coast, St. Louis, Chicago, and a number of other cities. We know that the Canadian climate is no bar, because a few houses have been heated in Toronto for the past ten years.

Is Heating With Gas a Good Proposition for Householders?

Several years ago I came to the conclusion that it is good from the standpoint of the gas user. A uniform temperature can be easily maintained at all times in the year. In the early fall and late spring it is almost impossible to do this with other fuels. It helps to keep the house clean, and makes the housewife a friend of the gas company. In these days of servant scarcity it takes furnace work during the day completely away from the woman. The unreliable and inefficient furnace tender is done away with. It helps conserve the family health and is invaluable where there is sickness.

A man can go away for a trip, stay down town or go to a lodge meeting, and not have to worry about his furnace. It gives more room in the cellar, which can be used for other purposes. Take it all in all, it allows a man in moderate circumstances to live like a millionaire.

Is the Proposition Good for the Nation?

It is not necessary to tell gas men of the valuable by-products utterly wasted in our present system of heating houses, or of the woeful waste of good coal by householders—wasted by being sent up the chimney as carbon monoxide, wasted by a big excess of heated air going up the chimney, and wasted by falling through grates. Many a time I have seen ash cans set out containing easily one-third of beautiful big lumps of unburnt anthracite.

Conservation of Anthracite

With the adoption of house heating by gas in our big cities, anthracite would be conserved many more years for use in small places, not only because less would be used in the cities, but because a great deal more coke could be put on the market. This is especially important to Canadians who would probably feel the pinch first. It would be a positive boom where soft coal has to be used for heating. This would help to give us smokeless cities. Smokeless cities mean better public health. The health-giving ultra-violet rays of the sun, which the city dweller is at present deprived of, would be allowed to penetrate to us. Our streets and buildings would be cleaner, the cost of hauling ashes greatly diminished, and hence we should have lower taxes.

Can a Gas Company Take the Business?

It has been said that the surest way to wreck a gas company is to take on a house-heating load. We are told how one day the output in Baltimore jumped to forty million cubic feet, how Los Angeles sent out seventy million cubic feet. They didn't even have time to cool the gas. I don't think it is necessary to get too excited about such statements. The conditions in the cases mentioned above were unusual. In one case the house-heating load was taken on very suddenly by means of low rates, which made the cost of heating with gas almost approximate that of heating by coal. In the other case, a mild climate, which makes gas heating almost the natural thing, coupled with an exceedingly rapid city growth made a condition which is not likely to be often duplicated. Let us bear in mind that more than one city has doubled its population and gas consumption in the course of about ten years, and that all demands for gas have been met. I have confidence enough in our manufacturing and distribution engineers to believe that they could solve these problems as they arise, if they do not come too suddenly.

Is the Proposition a Good One for the Gas Company?

This is, to me, a hard question to answer. I have not fully decided. At present I am taking an attitude of "watchful waiting." Perhaps the wish is

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GAS MERCHANDISING

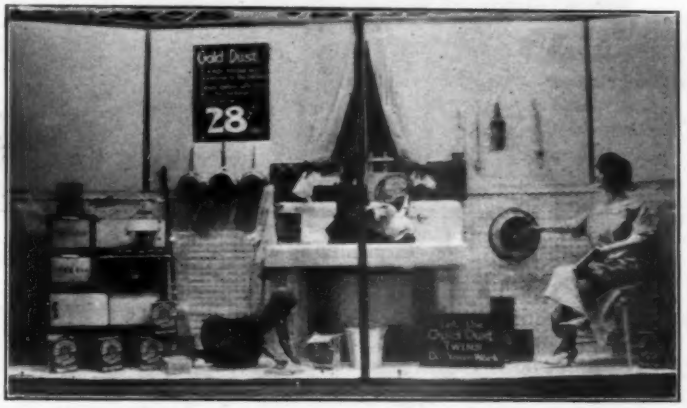
Domestic – Industrial

Gas Stoves for Autumn

Some good suggestions to aid in selling gas ranges

W. B. Stoddard

THIS is the fall house cleaning season, and housewives all over the country are carrying on a soap and water campaign, putting everything in readiness for winter. When finished, the house will be fresh, sweet and clean, but the problem is to keep it so. No woman needs to be told that gas is much cleaner and more efficient than wood or coal, and since most modern houses are furnace heated, the old-fashioned range is not needed for heating purposes. This, then, is the time to urge all housewives to install a gas range before the time comes for preparing the holiday feasts. Or, if gas has been in use, suggest that the modern type of gas range, with the oven regulator, is more efficient than the old style. Many dealers make a practice of accepting the old stove in partial payment for the new, a plan which readily appeals to the thrifty woman.



An Example of a Co-operative Display

Making the Inside of the Range Easy to Inspect

It is easy enough to sell the stove once interest is aroused. The thing to do is to make people want it. One of the best methods of creating a desire was that adopted by the gas company of Oakland. Every woman wants to open the stove doors and inspect from every angle the stove she purposes buying. In order to make it exceptionally easy for her to do this, a window with a sliding frame was used. The plate glass on front and side can be taken out, and the frame removed, leaving only a tiled platform about six inches high, outside the store. On this a modern type of gas range was placed. Fastened to the wall was a big red cardboard heart, six feet tall. In the center of the heart was set a gas oven. Red ribbons ran from this oven to the range, and on the heart was printed in big letters, "The oven is the heart of the range. Look into the fresh air oven." Narrow ribbons also ran from the oven to circular cards fastened to the border of the big heart, each card telling of some special advantage of this particular oven.

Display Attracted Attention

Countless women, hurrying by, were stopped by the striking display and proceeded to avail them-

selves of the privilege of "looking into" (literally) the oven and other merits of the range. They did this all the more readily because they were not under the eye of a salesman, note-book in hand, eager to take an order. On a small stand beside the range was a pamphlet fully describing all its special features, and a card suggested "Take one of these little books home to study at your leisure," another hint of which many availed themselves.

Co-operative Displays

Another method of calling attention to the efficiency of gas stoves is by staging a co-operative display. This was done by the Beacon Gas Light Company, of Los Angeles, and one of the leading grocers. As the fall renovating season approached, the grocery firm desired to call attention to their cleaning powders, especially to a nationally advertised one. They accordingly arranged a model kitchen, with blue tiled walls, and linoleum on the floor. A porcelain sink, with connection, was installed, with a gas hot water heater at the end. At the other end was a gas range, both the heater and the range being supplied by the gas company. On the wall and on the stove were shining aluminum pans, while on the floor were boxes of the powder. Seated in a chair was a young woman in blue house dress. Seated in the sink, polishing a pan, was one of the Gold Dust Twins, while the other was vigorously scrubbing the floor. These figures were of papier mache, and clad in turkey red bloomers. A card advised, "Let the Gold Dust Twins do your work." In the newspaper advertisement of the firms, both urged the public to inspect the window and learn how you can "Do It Better with Gas."

Capitalizing Safety Week

One of the big gas companies of Detroit capitalized safety week, which was the occasion of an immense parade showing all kinds of safety devices, by arranging a long truck for gas demonstration. In the front, decorated in bunting, was a booth, at which stood a girl distributing folders, calling attention to the merits of the stove. In the center was a big enameled range, with a demonstrator, baking little cakes, which were wrapped in oil paper by an assistant and thrown to the crowd. Stamped on the paper was "Always Be Careful—Cook Better with Gas." The float attracted the most attention in the commercial section, and the folders, and the deliciousness of the cakes, caused many inquiries to be made later at the office of the company.

Using the Radio

A company in Los Angeles, Cal., which recently opened a branch in the exclusive residential district of Western avenue, used to advantage the fad of radio to bring their gas stoves to the attention of the public. At the entrance of the salesroom they placed a de luxe gas range, set inside a big black-lined box, like a jewel in a casket. And the stove was truly a jewel, for all the metal parts were of gold composition, thus carrying out the idea of a card hung upon it, "Golden quick meal range." The range was valued at $1,000, and they did not expect to sell it, but simply to use it as a drawing card to call attention to their regular line of gas stoves. The unusualness of this gas stove would in itself attract hundreds of people, but, in addition, from the heart of it, there issued both vocal and instrumental music. Everybody stopped to listen to "the voice of the magic chef," as announced by a card hung on the top, and to wonder whence came the music. Finally it was ascertained that there was a radio set inside it —the music being furnished by artists at Lorain, O., and broadcasted to Los Angeles.

A very simple demonstration of some good points of gas will often swing a sale. The Northern In-

(Continued on page 882)

Capitalizing Safety Week

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 39

Expansion Effect of Heat (continued)

Use of Conversion Factors

Suppose a quantity of gas is metered at a constant temperature of 62 degrees Fahrenheit and that this pressure was measured by means of a pressure gauge which indicated a pressure of 18 pounds per square inch. It is desired to find the volume of the gas at atmospheric pressure.

The volume at the new pressure is less than that at the original pressure, for atmospheric pressure is less than 18 pounds per square inch. Thus, if V(b) is the original volume, for example, 100 cubic feet, and P(a) the original pressure, 18 pounds per square inch, then as the atmospheric pressure is 14.7 pounds per square inch, the new volume will be equal to

$$V(b) = 100 \times \frac{18}{14.7} = 100 \times 1.22 = 122 \text{ cubic feet}$$

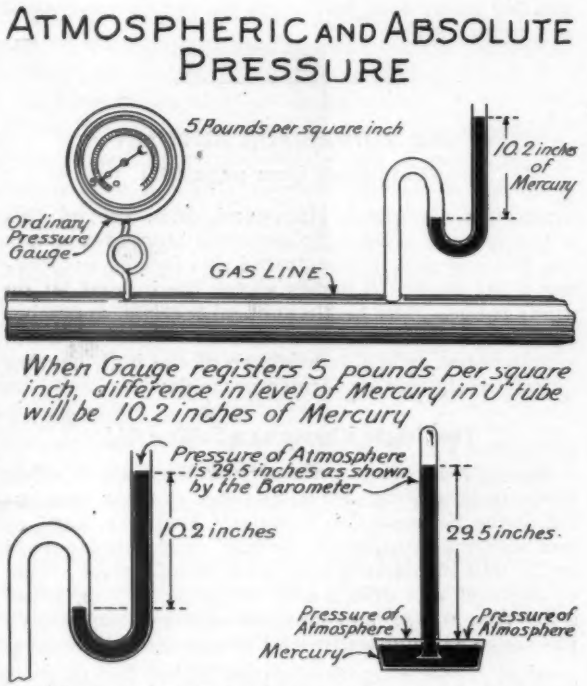
Another example may be given in which the pressures are partially recorded in metric terms. Thus, the pressure on the gas is 800 millimeters of mercury and it is required to find the corresponding volume at a pressure of 12 pounds per square inch. It is here necessary to reduce the pressures to common terms, that is to pounds per square inch. From the table, one millimeter of mercury or one-tenth of a centimeter of mercury is equivalent to 2.785 pounds per square inch. Hence 800 millimeters of mercury will correspond to a pressure of 0.0193×800, or 15.44 pounds per square inch.

This pressure is greater than 12 pounds per square inch; therefore, the volume of gas is greater at the lower pressure, and the original volume, which may be taken as 10 cubic feet, will be multiplied by a fraction of which the numerator will be greater than the denominator. The initial pressure will be the former and the final pressure the latter. The volume of the gas at the new pressure will then be equal to the following expression:

$$10 \times \frac{15.44}{12} \text{ or } 12.86 \text{ cubic feet.}$$

Atmospheric and Absolute Pressure

In measuring the volumes of gases, it must be remembered that there are two ways in which pressure can be recorded. If a pressure gauge reads 14.7 pounds per square inch, or in round numbers 15 pounds per square inch, the pressure that is noted is the actual pressure within the cylinder or pipe line or whatever container is used to hold the gas. In other words, the pressure within the container


ATMOSPHERIC AND ABSOLUTE PRESSURE
5 Pounds per square inch
10.2 inches of Mercury
Ordinary Pressure Gauge
GAS LINE
When Gauge registers 5 pounds per square inch, difference in level of Mercury in "U" tube will be 10.2 inches of Mercury
Pressure of Atmosphere is 29.5 inches as shown by the Barometer
10.2 inches
29.5 inches
Pressure of Atmosphere
Pressure of Atmosphere
Mercury
Hence total Pressure as shown by "U" tube is 10.2+29.5 = 39.7 inches
Pressure of Almosphere in pounds per square inch equals 29.5 x 0.491 = 14.48 pounds per square inch
Absolute pressure as calculated from pressure gauge reading is then 5+14.48 = 19.48 pounds per square inch
To Check:- 39.7 x 0.491 = 19.49 pounds per square inch
Absolute Pressure

is just equal to that of the atmosphere. On the other hand, when a U tube is used, one end of which is open to the atmosphere, the pressure recorded by the instrument being, for example, half an inch of mercury,—the pressure within the container, or pipe line, if we are measuring the pressure

of gas in a distribution system, is not just half an inch of mercury but half an inch of mercury more than the corresponding air pressure at the time the reading is made.

In other words, by adding 0.5 inch of mercury to the reading of the barometer, which may be 30 inches of mercury, there is obtained a pressure of 30.5 inches of mercury, which is the actual pressure or absolute pressure to which the gas is being subjected in its passage through the gas pipe. It must be remembered, however, that, while 30 inches of mercury, or more accurately 29.93 inches of mercury, corresponding to 14.7 pounds per square inch, is the average pressure of the atmosphere, this pressure varies constantly, sometimes from hour to hour, and is also dependent on the altitude above sea level of the place at which the pressure is read. It is, therefore, essential that the barometer be read and the exact pressure of the atmosphere be noted. Ordinarily, however, it is satisfactory to consider the barometric reading as 30 inches of mercury, corresponding to 760 millimeters of mercury, approximately thirty-four feet of water and fifteen pounds per square inch.

GAS STOVES FOR AUTUMN

(Continued from page 880)

diana Gas Company, Hammond, Ind., proved this when, instead of telling the people how intense was the flame of gas, demonstrated this fact by suspending a tea kettle 18 inches above the lighted jet on a gas range. The kettle bubbled merrily, and a big card beside the stove announced: "This small, keen, snappy flame is visible evidence of the high heating quality of the gas we furnish every day."

The Jingle Rhyme as a Selling Aid

A jingle is often remembered long after sober prose is forgotten, and it was this thought that induced the Emporia Gas Company, Emporia, Kan., to run a series of original "poems" in the newspapers in the fall in place of the conventional prose. One of the best was modeled on the popular "Oh, What a Pal Was Mary!" and sung the merits of the modern gas range as compared with the stoves of other days.

Gosh! what a stove had grandma. Gee! what a stove had she,
It took up half the kitchen, just to cook for a family of three.

Gosh! what a stove had mother. Gee! what a stove had she.
'Twas made of tin—its smell was a sin—and smoky as it could be.

But, oh, what a stove has Mary. Oh, what a stove has she.
Pride of the heart of Mary—as white and clean as can be.

The Radio in the Gas Window Display

Oh, how clean is the kitchen of Mary. How comfy and cheerful she.
Hubby bought her a stove of the Gas Man—she's as happy as she can be.

These poems were changed twice a week in the papers, and while they were being run several types of gas ranges were displayed in the salesroom window, together with a big card containing the same verse.

GAS HEAT MAKES BETTER BANDAGES

A recent application of manufactured gas to industry is in the making of webbing, bandages, and similar articles for surgical use, where uniform quality is of vital importance.

Steam is needed to shrink and size the fabrics, and has heretofore been applied under pressure through a system of perforated pipes, across which the rolls of fabric were drawn. Metal hoods over these steam pipes failed to catch all of the escaping steam, to the detriment of finished material and the discomfort of workmen in the room. Fluctuations in steam pressure resulted in uneven treatment of the fabric being steamed.

By the application of gas heat, an entirely different technique has been evolved. A closed metal box half filled with water is set over a gas burner, which boils the water, filling the upper half of the box with steam. The rolls of surgical webbing are fed through slots in the box, entering at one end, coming out at the other. By this means no steam escapes, the amount of fuel used is materially decreased, and the material is assured a more even steam-treatment than has hitherto been possible.

As The Journal Views It

ATLANTIC CITY CONVENTION

The time is now growing close to when the gas men of America will assemble in national convention at Atlantic City. Preparations have been made for a most comprehensive program, both from a business and an entertainment standpoint. Everything has been done that could be done to provide interesting and valuable papers and articles to be delivered at the meetings of the various sections, and at the same time the entertainment of the gas men, their ladies and guests, has been carefully provided for.

As far as the exhibits on the Steel Pier are concerned, they will be better this year than ever before. According to the secretary-manager of the American Gas Association, in a recent talk before a state convention, all of the exhibition space has been sold, and the demand for additional space has been so large, that very likely all available space that could have been found would have been disposed of.

All this speaks very strongly for a record convention. Every gas man who can find time to do so should attend. Of course, some must remain at home to see that the plants are operated properly, and that customers are supplied with gas. To them we say, better luck next time.

The American Gas Journal is issuing five dailies, to appear each day, from Monday to Friday, inclusive. As has been mentioned before, these will contain all of the convention news, and will be mailed to every gas company and subscriber in the country, as well as distributed among the gas men attending the convention. In this manner, no matter where the gas man will be, he will get the complete report of everything that takes place at Atlantic City.

In another part of the present issue we are printing the complete program of the convention. A glance through this program will show that every section has done mighty well in providing articles, addresses and reports for presentation at these meetings. Particular attention is called to the Accounting Section program, which is very complete this year. Likewise the Commercial Section program is full of interesting papers and reports. House heating is given considerable attention, as well as home service; methods of campaign merchandising; the display of merchandise; the development of the water heating business, and the very important subject of the compensation of salesmen, and the attempt to encourage them to greater effort through adequate compensation. Advertising in its relation to salesmanship is also not neglected.

In the Industrial Gas Section there will be many papers, as well as reports on the use of gas in individual industries. Thus we find reports on the use of gas in creameries, in drying, in food products, in metal treatment, etc. Particular attention is given to the problems of the small gas company from the industrial gas standpoint.

The formulation of proper basis for the compensation of industrial gas engineers is also one of the most important subjects to be discussed in this section's meetings.

As customary, the General Sessions will contain reports of all standing committees, as well as addresses by various representatives of the different sections.

The program of the Publicity and Advertising Section is particularly interesting. There will be a public relations and symposium one evening of the week, where all addresses will be delivered on customer ownership and public relations in general. It is to be noted that a general meeting will be held in the Industrial Gas, Publicity and Advertising and Commercial Sections on Thursday afternoon.

The Manufacturers' Section is also replete with interest and contains reports on various standing committees. Finally, the Technical Section has a very complete program, which contains reports of standing committees, as well as addresses on important subjects. A particularly interesting symposium will be held on the value of research to the gas industry and how it can be organized best to serve the gas industry.

This year there will be parallel sessions of the Technical Section on Thursday afternoon, one devoted to manufacturing matters, another to distribution matters, and the third to chemical matters.

This, in fine, is what awaits the gas man when he comes to Atlantic City. There will be plenty for him to do. There will be much for him to listen to. There will be all sorts of valuable information for him to acquire.

The American Gas Journal will endeavor to give each and every gas man, as it has done in the past, an accurate, complete report of the meetings, and also will publish the most important of the reports, addresses and papers that are delivered at the sessions.

WHAT ABOUT HOUSE HEATING?

(Continued from page 878)

father to the thought, but I am almost persuaded to say yes. Probably I soon will say yes. The possibilities are far beyond that of any other domestic business and most of the industrial business. It has the advantage over industrial business that you haven't as many eggs in one basket. True, there would be a big peak load. It is just as true there would be a big annual load. Bear in mind that you get a big peak anyway on house heating right now on extremely cold days, without getting the rest of the business.

A Few Figures on House Heating

Let me give you a few figures which are fairly typical for the kind of house-heating customers we have at present. These are for a house which has fourteen rooms and a heated garage connected to it. There is one servant—a Chinese. The customer lives in a cottage on the island all summer, spends a couple of weeks at Atlantic City around Easter, the house being kept heated to about fifty degrees while he is away. He has a Packard car for himself and one for his wife. In other words, a typical well-to-do business man, who likes to live comfortably. He has an eighty-light meter, and a three-inch service, larger than really necessary, by the way. For heating season of 1921-1922 his largest consumption for any one hour was 540 cubic feet, for any day 6,960 cubic feet, for any week 35,400 cubic feet, and for any month 117,260 cubic feet. His consumption for the heating season amounted to 716,800 cubic feet. In other words, about the equivalent of what would be used by about twenty consumers having five light meters.

I do not know, but I venture to guess, that the money invested in meters, services, mains and manufacturing equipment is less than that invested for the benefit of the twenty small consumers having five-light meters and inch and a quarter services. I doubt if the peak load at any minute is as great. Of course, the daily, weekly and monthly peak is probably greater. However, I question if this is any greater in proportion than in the old days when the gas company had an exclusive lighting business and prospered.

A scientific rate would probably be helpful, both in assisting to carry investment charges and to reduce the hourly peak.

How Can a Gas Company Get the Business If It Is Wanted?

That is easy. The answer is—just the same as you get other business—advertising displays, salesmen and good installations. Take a tip from the automobile business. Go out on any of our highways on a summer's evening. There are the customers for you to start on. Look at the hundreds of thousands of dollars invested in merchandise which has almost as rapid a depreciation as a straw hat. Think of the millions of gallons of gasoline consumed, think of all this money spent for a brief pleasure. Do not let your conscience worry you about taking money from these people. Think of the service you can give twenty-four hours a day, Sunday and week day, eight or nine months every year, and the small amount of money you are going to charge for it.

Give Good Service

Get started on installations, do the work right and give good service. After that your customers will soon be your best salesmen. It will soon be a case of "keeping up with the Joneses," and everybody who is anybody will have to heat with gas.

Don't worry about coal competition. Of course, if coal is $15.00 a ton and your gas is $2.50 a thousand, it may not be worth while to consider this business seriously, but customers will pay easily fifty per cent. more to you than to the coal man, and so they ought. Educate architects and builders to make houses to hold heat. Storm windows and proper insulation will do wonders. Do not knock the oil burner men. They are helping you

What Kind of Heaters Should We Put In?

There are plenty of good heaters on the market for steam, hot water and warm air. Deal with proven appliances that are reasonably efficient. Go easy on inventions that promise to make two heat units grow where only one grew before. Invariably use automatic temperature regulators. Encourage the installation of devices for humidifying the air. Give twenty-four hour service, but do not make babies of your customers. Teach them to do a few simple things for themselves. If you give a regular maintenance service—not free—it will give your customer better service and save you many a complaint call.

If you are inclined to worry, here is something to worry about—worry about chimneys. Beware of outside chimneys, and do not have too much confidence in inside chimneys. If you cannot get a good chimney, leave the job alone.

Catechism of Central Station Gas Engineering in the United States

Installment No. 39

(Continued from last week)

Then after the pressure has been equalized on both sides of the meter, observation of the test hand will show whether any more gas is passing and thus indicate the presence or absence of leaks. If the meter shows that there are leaks they must be located by an examination of the joints and pipe, using soapsuds on the joints as above. When testing in this way it is necessary to see that there is no large rise or fall in the temperature of the piece of pipe under test, since the resulting change of volume of the gas would affect the indications of the test meter and might make the pipe appear tight when there were really some leaks on it, or make it seem to leak when it is tight. The proper allowance must be made for unavoidable change in temperature. After passing the test the new work is connected to the old main, generally with a sleeve.

Procedure When Gas Pressure Is Unavailable

When gas pressure is not available, or even in some cases where it can be had, but a test at a higher pressure than can be obtained from it is desired, the pipe is put under an air pressure by pumping air into it until a pressure of two to three pounds, equal to approximately 54 in. to 81 in. of water or 4 in. to 6 in. of mercury, is reached. The joints should then be examined for leaks as described above and the pressure watched to see if it holds. The indications afforded by the steadiness of the pressure are as liable to be rendered worthless by change of temperature as are the meter readings, when a meter is used, and the temperature conditions must be noted and allowed for when the holding up of the pressure is relied on as the sole means for determining the tightness of the pipe, and for certainty it is necessary to examine the joints in each case.

In connection with the tests each caulker, where there are more than one on a job, should be made to mark with his name or number every joint which he makes, so that every imperfect one can be charged to the right man. The knowledge that all poor work will be immediately discovered and placed to their discredit makes the caulkers more careful with their work, and thus secures a better job, even apart from the discovery of leaks by the test.

Draining Mains and Pipes

211. Why is it necessary to provide for draining all mains and pipes through which gas travels, and how is this done?

Ans. Gas as it escapes from the retort, or generating apparatus, contains water vapor and condensable hydrocarbon vapors, which are deposited in the form of liquids as the gas cools down during the process of condensation. And even though all the condensable hydrocarbon vapors may have been removed during this process, the contact with the water in the water seals throughout the apparatus, and with that in the holder tanks, makes it probable that the gas entering the street main system will be, almost, if not fully, saturated with water vapor at the temperature it then possesses. When this temperature is reduced, during the passage of the gas through the mains, some of the vapor will be deposited in the pipes in the liquid form and unless provision is made for drawing this off as it deposits, the pipes will ultimately fill up and the flow of gas through them will be cut off. It is, therefore, necessary to lay all gas pipes on a slight incline without any sags or traps and to provide means for removing the liquids accumulating at the low points. When the pipes are above the ground in the works the liquids can usually be run off through constantly flowing syphons, but when the pipes are underground it is necessary to provide drip pots or drips into which the condensed liquids run and from which they are pumped at intervals.

Precautions Against Accumulation of Condensate

212. Having provided drip pots at the proper points in the Street Main system, what further precaution is necessary to prevent trouble from accumulation of condensation?

Ans. After having provided drip pots at the proper points in the Street Main system, it is further necessary that the liquids that condense in the pipes and flow into the drips shall be pumped out at regular intervals. The length of time that it is safe to allow to elapse between two consecutive pumpings of any drip must be determined by actual experience, and should always be sufficiently short to avoid the possibility of the liquids accumulating in the drip pot between pumpings to a height that will allow them to overflow from the drip into the pipe in which it is inserted. In the case of drips in the works, or those in the vicinity of the works on the trunk mains supplying the district, the intervals between pumpings will probably vary from a few hours to one week, while in the extreme outer part of the district it is very often safe to allow the drip pots to go unpumped for a year. All drips, no matter how small the amount of liquid they collect, should be examined at least once a year. In case the rate at which the liquids accumulate in any drip pot shows a sudden

increase an investigation should be made, the cause of the increase determined and the proper steps taken to remove this cause.

Guarding Against Obstruction of Pipes Against Frost

213. In putting in gas piping that will be exposed to extreme cold, such as the risers in street lamp posts or the portions of mains on bridges, what method would you adopt to guard against the obstruction of the pipe by frost?

Ans. Obstructions to gas pipes from frost may be guarded against either.

By enlarging the portion of the pipe in which the frost tends to accumulate to such an extent that a passage of sufficient size will remain for the gas even after the frost has accumulated on the interior surface of the pipe to a thickness that makes it an efficient non-conductor of heat and so prevents any further formation, or

By covering the outside of the pipe with a non-conducting coating which prevents the gas from being cooled to the frost-producing temperature, or,

By providing means for readily removing the frost when it has collected in sufficient quantity to begin to unduly restrict the flow of gas through the pipe.

Discussion of Methods

The first method is preferable wherever the extra size of pipe called for is neither inconvenient nor expensive. It is applied to lamp risers by the use of about thirty inches of 1½ in. pipe, called an "anti-freezer," extending up from the service to about one foot above ground. The remainder of the lamp riser is of the usual size, ¾ in. or ½ in., and the greater area of the 1½ in. pipe allows much frost to be deposited in it before it is closed up, and it is found in practice, that in the latitude of the Northern States, the winters are seldom severe enough to cause the anti-freezer to become stopped up. The location of the anti-freezer, just where the gas goes through the cold ground and first strikes the air, insures that all condensation will occur in it. For bridge crossings, where the main is small, 6 in., or less, in diameter, this method is applied by increasing the diameter of the pipe by 2 in. from a point in advance of that at which the exposure to cold begins on one side to a point beyond that at which this exposure ends on the other side. If the pipe rises from the ground to cross on top of the bridge, the larger size should be used from the beginning of the rise on the one side to the end of the drop on the other, while if the pipe crosses under the bridge and on practically the level at which it is laid on the approaches, the enlargement should be made on each side at a distance back from the face of the abutment at least equal to the depth to which the pipe is covered plus one foot. When wrought iron pipe is used for the crossing, a piece of pipe of the same size as the main in the ground is sometimes inserted loosely in the enlarged portion, as a precaution against the obstruction of the passage by accumulations, on the bottom, of frost shaken loose from the top, the two pipes being kept concentric by proper distance pieces. The frost forms in the annular space and leaves the inner pipe entirely unobstructed and surrounded by a good non-conductor.

When the pipe is small and the conditions are such that a non-conducting covering on the outside of the pipe can be applied cheaply and will not be exposed to undue wear and tear, the second method is preferable to either of the others.

Value of Dissolving Frost as It Forms

The third method, that of providing means for dissolving, or otherwise removing, frost as it forms, is to be preferred to the others in case of large pipe on bridges. Where the supply demands a pipe 6 in. or larger, and the climate is so severe that frost enough would form to seriously diminish or stop the flow of gas, openings should be provided in the bridge line for the introduction of a solvent for the frost, such as wood alcohol. Ordinarily, holes tapped in the line at high points, say about twenty feet apart, will suffice. One or two such holes should also be provided in case of emergency, even when the method of enlargement is adopted. In very large lines, 16 in. and over in size, tees may be put on each side of the bridge where the line comes out of the ground, the free outlets of these tees being made flanged and closed with blank flanges. This would provide against extremely large deposits of frost, for full access to the line would be obtained by removing these flanges. There should be a valve on each side of the bridge to permit the bridge line to be cut out. Where the bridge line furnished the only supply to the district on the farther side a temporary by-pass line would have to be laid before the valves were closed.

Effect of Sharp Turns in Pipe

214. How do sharp turns in a pipe affect the amount of gas that it will deliver?

Ans. Sharp turns in a line of pipe materially increase the friction between the current of gas and the sides of the pipe, and as the amount of gas that any given size pipe will deliver under a given loss in pressure decreases as the friction increases, the greater the number of sharp turns, the less gas will the pipe deliver for the same length and diameter and the same loss in pressure.

On pages 176 and 177 of Volume XVI, "Progressive Age," and on page 679, Volume LXVI, "American Gas Light Journal," will be found some remarks bearing upon this question of decreased flow due to sharp turns.

System of Records on Street Mains

215. Describe a system of records by means of which full information regarding the location, size, etc., of street mains can be economically filed in such

shape as to be available for quick and ready reference.

Ans. The question of street main records naturally divides itself into two parts, the obtaining of the data and the recording of them in a convenient, accessible shape.

On new work the obtaining of the data is a very easy matter, although it is often overlooked. As each piece of main is laid, measurements showing the line on which it is run, its depth below the surface of the street, the location of all fittings, and that of at least one bell on each block should be made and recorded. The measurements showing the line along which the main is run are generally taken from the nearest curb, but for unpaved streets it is probably preferable to take them from the property line, as this is less apt to change. The measurements along the line itself giving the location of fittings and of the bells, should be made from a zero point, such a point being adopted for each city block. One of the property lines of the intersecting street makes a good zero point, care being taken to take the corresponding line for each block along each street, and as far as possible for every one of a number of parallel streets, and to make all measurements in the same direction. Thus, on streets running north and south, the zero point should be either the south line or the north line of the intersecting street in each case, and not the south line in some cases and the north line in others. If no cut lengths are put in between intersections, except immediately at the fittings, it is only necessary to locate the bell at which the full lengths begin and to make a note of the normal distance between bells. If a cut piece is required away from a fitting, the bell at which the full lengths again begin should be located. This information as to the location of bells is valuable when the work of barring for leaks is to be undertaken, especially where the mains to be barred over are under pavement.

Use of Forms

To make it easier to report the information noted above as being necessary, the person whose duty it is to obtain it should be provided with copies of a special form upon which it can be entered in writing as well as by means of sketches. Different forms are used by different companies, some using simply a card 5 in. × 8 in. on which a heading is printed as shown and the remainder section-lined, that is, divided by light blue lines into squares, to make it easy to make sketches upon it, while others use cards on which, in addition to the heading, is printed a diagram of a block with the two intersecting streets.

Sketch Card of Street Main Connection

.....Side ..... Street
From ..... To .....St.
No. ..... Date ..... 19....
Commenced .....19.... Finished .....19....

The latter form does not meet the case of intersections at angles greater or less than a right angle. With either style of form one is filled out for each block of pipe laid and is used to post the information on the permanent record.

In the case of old work for which there are no records, every street opening made by the company, and all those made by others, that are noticed, should

Street Main Information Card

Nearest House to.....St.
Nature of work .....Date.....190
Size.....Depth to top.....Ft.....Ins.....
Distance .....Ft. .....Ins. ..... of .....Line
Drips towards .....
Kind of soil .....
Remarks .....
.....
.....
..... O .....
Sign here .....

be taken advantage of for the purpose of securing the information desired. For this purpose the foreman of every service gang and any other employees, including the superintendent, who are apt to come across such openings, should be equipped with small cards, printed as shown, on which to enter the measurements taken. If an intersection is exposed a sketch can be made on the back of the card. Information as to drips and valves can be put as secured on other cards, printed as shown, and, if desired, sketches of connections to them can be made on the back of the cards. These drip and valve cards should also be used to report the location of drips and valves put in during the course of new work.

Drip Record

Nearest House No. .....
..... Date 190
Location..... Feet..... Ins. ..... of .....Line
..... Ft..... Ins. ....of..... Line of .....St.
SIZE OF MAIN——Depth to Top....Ft. ...Ins....
..... Ft..... Ins..... of ..... Line.....
Style of Drip .....
Remarks .....
.....
..... O .....
Signed .....

Valve Record

Nearest House No. .....
..... Date 190
Location..... Feet..... Ins. ..... of .....Line
..... Ft..... Ins. .....of..... Line of.....St
SIZE OF MAIN....Depth to Top....Ft. ...Ins....
..... Ft..... Ins..... of ..... Line .....

Kind of Valve .....
Opens to the .....
Remarks .....
.....
Signed .....

Using the Information

When these cards are handed in, either to the record department in the case of a large company, or to the superintendent where the company is so small that this official is also the draughtsman, the information contained in them should be posted to the street main maps and the cards then filed for future reference. The filing is often done according to geographical location, the streets being arranged alphabetically, and the cards for each street in the order of the street numbers. It may also be done by giving a number to every city block or every section of road in the territory, these numbers being marked on a wall map used as an index map, and filing all cards referring to any city block or section of road under the proper number, sub-numbers being used when two or more cards are filed for any block. Thus, if the block were No. 100, the first card would be No. 100-1, the second No. 100-2, and so on. When information is wanted for any locality, the number is found from the index map and it is very easy to find the card in the file. For comparatively small new systems and where the street numbers do not run by blocks, and, consequently, do not afford any indication of the exact location on the street of any number, or where there are no street numbers, as in small towns and along country roads, the block number system is the best. For very large, old systems with no records there is not much choice, and the geographical filing does not involve any preliminary work in assigning block numbers.

The Use of Maps

A map showing the whole territory on one sheet, if possible, and on not more than two or three sheets at the outside, should be made on tracing cloth. A good scale for this map is 300 feet to the inch. If the blocks are to be numbered, the numbering should be done on this tracing. Except for the names of the streets and the block numbers, all of which should be put inside the property lines and not in the spaces showing the streets, the tracing is to be left unmarked and black on white prints are to be made from it for use as maps. On one such print every street main in the system should be entered, the different sizes being distinguished either by the use of different colored inks, or of different combinations of dots and dashes in the same color. When using different colors it is well to work from lighter to darker colors as the size increases, so that when an old main is replaced by a larger one, the darker color will cover the lighter one without any need of making an erasure. This map will merely show the fact that at a certain location there is, or is not a gas main, and if the main is there will give its size, but it will not show any details of location or construction. If desired, similar maps can be made to show trunk mains, nothing smaller than 8-inch being put on, and the general location of drips and syphons and valves, a separate map being used for each special purpose.

Use of Insurance Map

For recording details an "insurance map" of the territory should be bought whenever one is available. These maps show all settled parts of the city on a scale of 50 feet to the inch, and the unsettled portions on a scale of 100 feet to the inch, and consist of a number of separate sheets bound in book form, each sheet covering several squares. On them are shown all buildings, and when they are purchased from the company that publishes them, arrangements can be made to have them kept posted as to new buildings and changes in old buildings. They sometimes also show water mains, and in ordering them it should be stipulated that water mains are not to be shown on the set furnished. If no insurance map or other already prepared large scale map be available, a special large scale map in sheets will have to be made to take its place. On whichever is used should be shown the size and detail of every street main. The sizes may be marked in the same way as on the small scale map, or all the mains may be put in in solid black lines and the size indicated by figures and the use of lines of different thicknesses. The distance of the pipe from the property line and the position of all fittings, drips, valves, sleeves, etc., should be located by writing, on the map, the proper dimension lines. The scale should be large enough to permit this to be done with clearness in the case of all distribution systems, except those in a few of the very large cities where the underground situation is such as to make it necessary to use a large number of fittings, closely spaced. Rubber stamps of the proper shapes can be used for marking the various fittings to facilitate the work. With cards made out and filed and maps drawn as described above, there will be no trouble in finding quickly and easily any information as to the street main system that is desired, and the information will have been obtained and filed as economically as it is possible to do it.

Articles which contain good ideas on the subject of street main records and maps will be found as follows: American Gas Light Journal, Vol. LXVI, page 481; Vol. LXX, page 482; Vol. LXXIV, page 449, and Progressive Age, Vol. XVII, page 128; Vol. XIX, page 114.

Regulating Pressure on Mains

216. Why is it important to regulate the pressure on street mains?

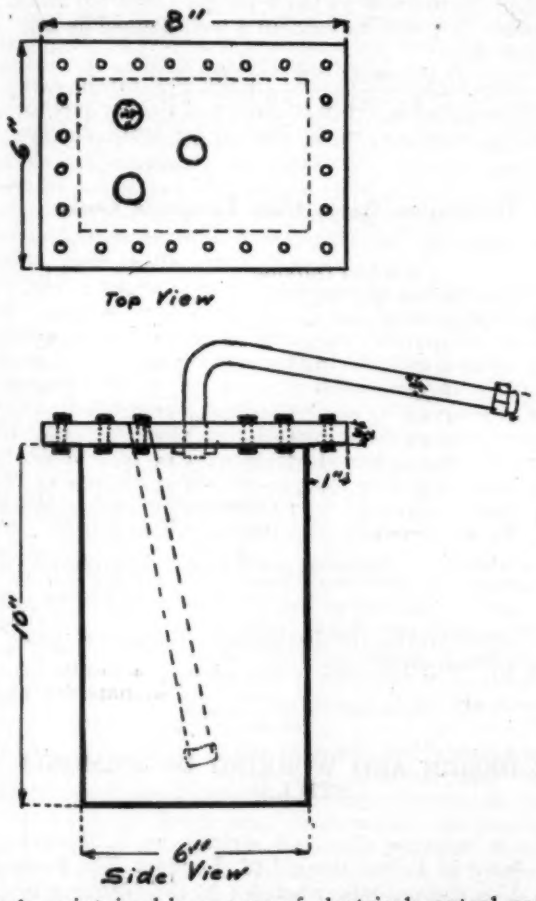
(Fortieth Installment Next Week)

GAS MAKING FROM A HIGH SMOKY VOLATILE COAL

(Continued from page 876)

Distillation

A 907-gram sample of the freshly mined, graded coal was charged into the retort and the retort sealed with steam gasket and sodium silicate to prevent leakages. This system was then tested for leaks. The furnace was previously heated to approximately the desired temperature before the retort was inserted therein. The heating was regulated after the retort was placed and the temperature maintained by means of electrical control until all evidences of decomposition or reactions were at an end. The stopping of gas bubbling through the tar trap, the absence of further evolution of gas into the gasometer, and the cooling of the gooseneck were all used as evidences of completion of the distillation at each heat treatment.



Details of Process

The distillations were carried out at atmospheric pressures at 200, 300 and at intervals thereafter to 660 degrees C. Any change taking place in the course of the distillation at low temperatures of the coal from the Farmville mine should make itself evident by exerting an influence upon the nature, amount and properties of the products obtained. The distillation data obtained in this study are recorded in Table I. The data are calculated on the yields from the original coal on the moisture-free basis.

The course of the reactions that occurred during the heat treatments at increasingly higher temperatures is clearly shown from the quantitative data in Table I. Subsequent analysis of the gas obtained at this point indicates that it is chiefly air and some paraffin hydrocarbons that are liberated from this coal at this low temperature. At 300 deg. C. the heat begins to have a marked effect on the coal. The water fractions vary but slightly throughout the series from 6.66 per cent at 300 deg. C. to 7.68 per cent at 540 deg. C.

Table I—Distillation Data on Farmville, N. C., Coal

Temp. of Runs ° C.	Total Volatile Matter Per cent	Tar Fraction Per cent	Water Fraction Per cent	Coke residue Per cent	Ammonium Sulfate Per cent	Volume of Gas Liters
200	10.33	..	..	89.67	0.17	2.5
300	25.67	2.13	6.66	74.33	1.23	13.5
360	27.32	4.69	6.82	72.68	1.86	33.0
420	30.30	5.98	7.26	69.70	2.20	42.0
480	31.50	7.04	7.12	68.50	2.00	55.5
540	34.00	10.62	7.68	66.00	2.25	72.8
600	34.00	10.72	7.48	66.00	2.10	93.6
660	34.50	11.19	7.24	65.50	3.00	136.4

The Total Volatile Matter

The loss in the treated sample is termed "total volatile matter." Casual study of the data in Table I reveals a decided difference in this total volatile matter or loss on heat treatment and the sum of the products obtained from the coal, assuming extrapolated gravities for the gases where such data are lacking in Table II. This difference is large at the low temperatures and becomes increasingly smaller as the temperature to which the coal is subjected is increased until it almost disappears between 540 and 660 deg. C. This large difference at the low temperatures of distillation with the decreasing difference at the increasingly higher temperatures is considered due to the fact that the gases liberated at the lower temperatures are mainly the heavy, wet, complex paraffin hydrocarbons, which are increasingly diluted at the higher temperatures by the formation and liberation of larger quantities of the light hydrocarbon gases. This assertion is borne out by the analyses of the several gases obtained during the distillations. Closely balanced low-temperature distillation analyses are difficult to obtain.

Composition of Gases Evolved

The composition of the gases obtained at each heat treatment indicated the course of the reaction of the coal during the heating. The analyses were

conducted according to the procedure described by Mahin—heavy hydrocarbons by absorption in absolute alcohol; carbon dioxide and hydrogen sulfide in potassium hydroxide solution; ethylene and its homologs in fuming sulfuric acid; oxygen in alkaline pyrogallol; carbon monoxide in acid cuprous chloride; hydrogen by fractional combustion over palladinized asbestos; methane and ethane by slow combustion; and nitrogen by difference. The samples were well mixed before analysis. The air in the apparatus was evacuated until a head of 18 inches was maintained in the gasometer.

No hydrogen was found in the gases evolved. Low-temperature distillation of this coal revealed a well-defined primary decomposition point at 540 deg. C. in addition to the decomposition point between 700 and 800 deg. C. Although the distillations were not carried above 660 deg. C., the trend of the compositions of the different gases evolved at increasingly higher temperatures indicates that the decomposition following the one at 540 deg. C. would occur slightly above the last heat made—i. e., 660 deg. C.

Table II—Percentage Composition of Low-Temperature Distillation Gases from Farmville Coals

Temperature of Run ° C.	Specific Gravity(a) Air = 1 at 15.5° C.	Heavy Hydrocarbons	Ethylene and Its Homologs or Unsaturated Hydrocarbons	Ethane	Methane	Carbon Monoxide	Carbon Dioxide and Hydrogen Sulfide	Nitrogen	Oxygen
200	..	14.90	0.74	14.41	19.09	0.00	0.00	40.01	10.85
300	..	48.09	0.30	17.11	24.15	0.00	0.65	7.62	2.08
360	1.167	36.42	0.20	17.14	36.40	0.00	0.65	7.23	1.96
420	..	26.60	0.30	17.93	44.89	0.40	1.24	6.81	1.83
480	..	23.00	0.14	17.31	48.20	0.40	1.24	7.62	2.09
540	1.099	22.40	0.15	17.55	51.62	0.40	1.25	5.16	1.47
600	0.952	1.49	0.17	16.46	74.50	0.55	1.46	4.23	1.14
660	..	1.08	0.12	15.73	76.64	0.40	1.55	3.62	0.86

(a) Data only given on gases where agreeing data could be obtained. Schilling method for determination of specific gravity used.

According to the analyses of the gases a heat treatment above 540 deg. C. must be given to the coal to use the gas obtained therefrom for commercial purposes.

Coke Residues

The undesirability of using this coal as mined for domestic consumption on account of its excessive smokiness necessitated a treatment of the same to make available the 100,000,000 tons of coal in sight. An examination of the residues obtained from the low-temperature distillations showed that the coal could be converted into a suitable residue or coke. The residues obtained up to the 300 deg. C. heat treatment retained the appearance of the original coal. At 360 deg. C. sufficient tars had been liberated to cement the residue into lumps. As the temperature was increased the residue lost more of the binder and began to take on the appearance and characteristics of commercial coke. At and above 540 deg. C. the residues were hard, flinty, and honeycombed.

Conclusions

1—The excessive smokiness of Farmville, N. C., coal is due to the liberation of complex paraffin hydrocarbons at relatively low temperatures.

2—The characteristic disintegration of this coal on exposure to the air is due to the absorbed gases and the loose combination of the heavy hydrocarbons in the coal.

3—A positive decomposition point occurs at 540 deg. C. in addition to the secondary change occurring above 700 deg. C., as found by other investigators.

4—No marked decomposition point occurs below 540 deg. C., the coal yielding complex hydrocarbons and other by-products without a well-defined decomposition point.

5—This high volatile and smoky coal can be converted into a safer, more efficient and cleaner fuel for domestic consumption by low-temperature distillation.

6—Low-temperature distillation of this coal produces a commercial gas.

THE DESIGN AND WORKING OF AMMONIA STILLS

This is the title of a book written by P. Parrish and printed by Ernest Benn, Ltd., London. The book deals with the important subject of the recovery of ammonia and its conversion into ammonia sulphate. It takes up in detail the methods that have been devised for effecting substantial reductions in the cost of sulphate ammonia. It deals in a practical manner with the design of stills, preheaters, condensers, dephlegmators and coolers, with special reference to economy of steam. This work covers also the manufacture of concentrated ammonia liquor and liquid ammonia, carbonate of ammonia, caustic ammonia and ammonium soda.

It forms a most valuable addition to the literature of ammonia recovery and working.

*Safe Gas Tubing

Some pertinent remarks on this important subject

C. D. Frees

Vice-President New York Gas Tubing Co., Inc.

THE practicability and popularity of gas for lighting, heating and cooking purposes are necessarily contingent upon the manufacture, development, application and particularly the safety of gas appliances and accessories. If the appliances and conveying mediums present hazards, then we must remove the hazards or less gas will be used.

Precaution in connection with the purchase of gas tubing cannot be left entirely to the general public. The average person is unacquainted with the manufacture of such an article and is ignorant of what constitutes good or bad gas tubing. The quality is also often secondary to the price in his consideration. He does not stop to consider what an important part of his gas equipment gas tubing is. Custom induces him to accept any kind of gas tubing. for he reasons that anything salable must have been approved by some authority or else it would not be placed on sale.

This is not true of gas tubing, with the exception of the city of Newark, N. J., and several other localities, and outside of the work done by the A. G. A. and some gas companies, very little legislation or education has taken place to safeguard the users of gas tubing. Since the production of gas tubing has an important bearing upon the safety of the public, it places a moral responsibility upon the maker of gas tubing, to make tubing that at least meets the specifications of the A. G. A. Legislation should be enacted to control the manufacture and sale of gas tubing.

In the last five years, New York City, not including Brooklyn, met with 1,161 deaths due to all kinds of accidents. Of this number, 242 deaths were caused by leaky and disconnected gas tubing, or approximately 21 per cent of the total number of deaths. This percentage shows what good gas tubing means to the gas consuming public.

The manufacture of gas tubing is not intricate nor dependent upon the supply of scarce material. Nor are its methods of manufacture protected by patents. Unfortunately, being thus uncontrolled, competition has brought into existence a cheap grade of tubing which an unadvised public has purchased at a saving of approximately 25 per cent, but such tubing is close to the border line of being worthless and criminally unsafe.

How Safe Tubing Can Be Made

A safe and dependable gas tubing can only be made in this manner:

An inner tube of helical metal tubing without a splice or joint in its length is used as a foundation. This is in itself to some extent gas proof.

A packing of good rubber compound is then built over it. This rubber should be of such quality as to allow flexibility without breaking or cracking and devoid of as much, as practical, foreign substances commonly found in rubber compounds.

Then the tubing is dipped in a solution of gelatine, which coats it, making it impervious to gas. My thirty-three years' experience has proven to me that this compound makes the best gas tubing.

The next stage of process is the wrapping of the tubing in a fibrous material to guard against the effects of the heat.

A cotton or silk jacket is then braided about the whole to act as a binder.

Rubber end pieces of the best quality are then glued on. They must be of the best, so as to withstand the wear of pulling over metal gas cocks and firmly swedged or clamped on with either a nickel-plated or lead ferrule.

Testing the Tubing

Tubing thus constructed will withstand the weight of two hundred pounds laid upon a one-inch length of the tubing, without crushing or showing leakage. It will withstand the pulling without bad effects. The end pieces will not crack or loosen up, and will allow any amount of reasonable connecting to gas leads. These ends, if properly made, allow a clear gas passage and give a long life. Although the ends are corrugated, this does not help much, as the cocks are not of the proper design and construction.

The Gas Cock

Cheap gas cocks which today flood the market are a hazard to human safety. Manufacturers of gas appliances should be asked to use the gas cock approved by the A. G. A. This cock has the right pitch and is the only gas cock that should be used exclusively today. A good gas cock may not momentarily mean much, but by having a standardized cock such as that approved by the A. G. A., many gas leaks in homes would be eliminated. Many homes having connections running through their baseboards and walls for connecting hot plates, heaters and gas iron, are of a very irregular pitch. This should be corrected by gas company inspectors, who should inform the customers of their condition and insist that their connections be fitted with the cock approved by the A. G. A.

The cocks flooding the market today are sold to the public in the crude state. Cocks should be turned and smooth. This will help do away with numerous leaks and eliminate danger.

This is about all that is necessary to be said on gas tubing. If the above standards are lived up to and some method of control instituted by the municipalities or gas companies, the lamentable accidents and fatalities that have occurred in the past can be immensely decreased.

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*Delivered at the annual meeting of the N. J. Gas Association.

PUBLIC RELATIONS

(Continued from page 876)

payroll: Savings plans, building and loan schemes, co-operative buying, group insurance, educational and welfare work, and similar plans initiated and generously supported by the management, earn a return in loyalty and a ready willingness to acquire an intelligent understanding of the problems and policy of the company, and to spread the gospel of the company's good service whenever an opportunity occurs.

With the rank and file of the organization in this frame of mind very little has to be said to them in the matter of courtesy to the public. True courtesy is not a matter of teaching a man to say "Thank you" in a dispassionate voice, with a fixed mechanical smile, which does not fool the public. A man who feels joy in his job will impress the customer with his courtesy, no matter how he expresses it.

So with every person working for the company in the correct frame of mind, and properly informed (or with facilities at hand to inform himself) the company is well on the way to establish better business relations with its customers.

Some companies now supply their employees with blocks of tickets upon which they can write any question asked them by a customer which they do not feel qualified to answer, or which in their opinion would be more satisfactory to the customer if answered by the company officially. These tickets are sent to a department organized to deal with them. Each question is fully and carefully considered and an answer sent both to the customer and the employee originating the ticket.

Different companies have given various names to this "ticket"—but they all have the same common trend to establish "Better Business Relations" with the customer.

Company Property and Civic Pride

Every public utility company, no matter what line of service it may supply, should strive to make every piece of property and equipment used in its business as pleasing and attractive as possible. Buildings should be an architectural asset to the city. Offices used by the public should be furnished with at least as many comforts and conveniences as are now commonly found in the better class of department stores in large cities.

Companies that retail merchandise should use the utmost care to select only such articles as will be sure to give satisfaction to the user. Bargains and bargain prices should be discouraged. Dependable merchandise at a fair margin of profit is the best way to prevent any subsequent unfavorable reaction.

Window displays, where used, should be of such a nature as to increase the value of adjoining property, by improving the "shopping value" of the thoroughfare. Wagons, trucks and cars used by the company should be pleasing in design, easily identified as company property, clean and well painted at all times.

Street barricades should also be clean and well painted and easy to identify as the property of the company engaged in any particular piece of work. The company's "sign-manual" or trade-mark, should became a guarantee to the citizen that whatever excavations are being carried on, they will be concluded in the shortest possible time and performed throughout in the best possible manner.

Landscape the Gas Works

Unused ground lying around and part of electric power stations, or gas works, should be landscaped. Where this is not possible flower boxes and flower beds should be installed. Unsightly board fences around gas works should be replaced with ornamental iron fences, concrete and iron, or well designed brick walls. If iron fences can be used they should be backed with shrubbery. The base of gas holders should be screened with shrubbery. Grass plots and flower beds should be utilized wherever possible.

All tanks, towers, etc., should be kept brightly painted. The company's name, or slogan, painted on the upper part of a gas holder, and "flood lighted" has a very pleasing effect on a dark night.

Where board fences cannot be replaced with iron or stone, they should be kept in good repair and frequently painted. Some informative legend on the fence as to the nature of the property it surrounds is better than a barren board fence. All such signs as "Keep Out," "No Admittance," should be replaced with such phrases as "Entrance at ..... Street," "Superintendent's Office ————." Engine room interiors of a modern public utility company are a delight to the eye; no royal palaces were ever kept more spick and span; but the public never sees these interiors. The same meticulous care a good engineer expends on the inside of the engine room should be extended to the exterior view of the plant. There is no reason why a well laid out, well kept gas works or electric light plant, should not be just as much of a gain to a factory district as a well trimmed electric or gas company window can be to a shopping district.

Courtesy to All Callers

Salesmen and solicitors calling at the office of a public utility should always be received courteously and given easy access to some person with authority and responsibility. They should be allowed to explain in full their business and the purpose of their call. A great deal of time can be, and is, consumed in this manner, but it is one of the penalties of public service. Travelers are great tale bearers, and one who feels he has been too curtly dismissed is apt to sow the seeds of his own discontent wherever he finds fruitful soil.

Representatives of the press should be given

prompt and careful attention, and full and accurate information. Their time is usually very limited, and a lack of frankness in dealing with them is apt to arouse suspicion, and they can be potent forces for good or ill. The head of the publicity department, or his representative, is the proper person to issue statements and supply information to the press. Confusion and misunderstandings will be avoided if all such matters are handled through one channel only.

News for Newspapers

Eighty-five per cent of the subjects of general conversation will be found to have their origin in something somebody has seen in a newspaper. Newspapers will always print news; that is their business, and there is much happening in all public utility companies that is Simon-pure "news matter" and of interest as such to the public. This has no relation to advertising, which will be referred to presently. Supplying newspapers with news items should be part of the regular duties of the utility company's publicity man; and it is obvious he must be a person who has a "nose" for news. Any attempt to palm off spurious stuff, or get "free advertising" will entirely defeat its purpose and close a valuable channel for imparting interesting information to the public.

Advertising the Service

Public utility companies should use advertising space regularly and continuously throughout the year. Spasmodic advertising brings only spasmodic results, or none at all. Special features of the company's service should be advertised, and advertised repeatedly. Some utility companies seem to "go stale" on their own stuff before it has had time to scratch the surface of the public consciousness, and, besides, there is always a fresh newspaper audience.

It is also a mistake to think that the public are as seriously concerned with a public utility's problems as are the men who have to solve them. Too much talk in an "ad" is nearly as bad as no "ad" at all. If one important point can be covered in one "ad," that "ad" pays for itself. The public likes to be talked to, but it refuses to be bored. A simple sentence, like "Use the Elevated" is a potent piece of advertising. It first suggests an idea; one begins to think of places reached by the Elevated where they might want to go at some time. Secondly, it is a bid for business. The Elevated invited you; wants your trade. If there were two grocers in your neighborhood and one tipped his hat and gave you a pleasant nod when you passed, and the other gave you the glassy-eye and an intimation that he didn't care a darn whether you bought from him or not, there is no question as to which of the two you would trade with. The Elevated, by its sign, is tipping its hat to you and inviting you to do business with it. Your reaction is all to the good of the company.

Utility Company Not an Exclusive Institution

A utility company should direct its advertising to the average citizen. It is not an exclusive institution appealing only to the rich and highly cultivated. It should use plain talk for plain people, and can even be slightly colloquial at times.

Companies should keep their patrons informed both by advertisements and through their house organs, if they issue any, how the customer can profit by the use of the service. It is entirely erroneous to assume that customers know all there is to know about this, or that it is their business to find out. It is the company's business to tell them, and to do so in a pleasant and agreeable manner. It has been demonstrated that very friendly relations can be established between a company and its patrons by this very simple course of action. When the public and the company are in accord the company has little to fear of unfair treatment from legislative bodies, which, for the most part, merely reflect the mental attitude of the people who elect them. Cases are on record, both in this country and in England, of the public joining with the companies in an appeal to some regulatory bodies for more liberal treatment.

Customer Ownership

The distribution of a company's securities among a large number of its customers must stimulate a very much wider and more intelligent interest in the company's problems. The confidence in a company's integrity indicated by the investment in the first place develops into a friendly feeling, which at times finds expression in one way or another and increases that invaluable but intangible thing which we call "good will." A large number of owners of small blocks of stock stabilizes the company's securities.

Correspondence With Customers

Every letter received by the company should be answered or acknowledged within forty-eight hours. Great care should be taken to avoid the use of trade terms and trite business letter phrases. Except in the case of users of electricity or gas for industrial purposes, the utility company's customers are mostly private citizens. Whenever circumstances permit, the writer should endeavor to establish a personal relation with the company, offering his own services in furthering the customer's interest, as far as his dealings with the company are concerned. If the customer can be made to feel that he is dealing with a human being, who is keen to serve him, in place of being in correspondence with a mechanical writing machine, his own rigidity will become flexible and amenable to reason. Special care should be taken to make all letters coming from a public service company, even form letters, distinctly human.

Handling New and Old Customers

New customers on gas, telephone or electric company's books should receive a letter of acknowledgment, and a book of information and instruction relative to the company's service. Customers discontinuing service on account of removal from the city, or retirement from business, should, if their financial record has been satisfactory, be sent a letter, acknowledging the fact, and expressing a hope for the renewal of business relations at some future time.

The class of individuals known as "chronic kickers" should have special attention. "Kickers" are usually people with energy-plus who have been misinformed or misdirected. Properly approached, they will be usually found quite open to reason. It may take some time and patience to convince them, but when once convinced the energy that has been used against you will be used in your behalf. There is no bigger booster for a company than a regenerated "kicker."

Active Interest in City Betterment

It is an enviable condition for a public utility company to attain when citizens make a point to call the attention of strangers to the excellent service rendered. The company has then become recognized as one of the temples of civic pride.

It is a fifty-fifty proposition, however, and the company on its side should encourage its employees to interest themselves in all activities designed for civic betterment, such as associations of commerce, business men's associations, Rotary and Kiwanis clubs, and similar activities. On the other hand, it should stand aloof from participation in any enterprises where there are religious or class distinctions, unless it is prepared to treat them all alike. No distinctions, however reasonable, will be accepted as such by the group that is excluded.

Many of the subjects referred to in this article have been matters of common practice with a number of public utility companies for some years now, and within that time there has been an almost incredible change of attitude on the part of the public toward the companies. Much, of course, remains to be done, and there will always be much to be done. The public must be wooed to be won, and once won must continue to be wooed. But it must be done with all frankness, sincerity and truth. If the public service companies continue to be controlled for some years to come by the same class of men as for the most part now direct them, they will become the pride and boast of the cities in which they are located. This, provided that proper publicity, properly placed, is permanently made a part of their program. Christianity itself would have died a-borning, if priests and preachers had not continuously advertised its service to humanity.

Gas Company Stocks Increasing in Value

Are we in the midst of a public utility boom? This is the question which speculative leaders on Wall Street have been asking themselves ever since the first of the year when gas and electric company securities began a course of unprecedented popularity among all classes of investors. All the financial papers and magazines have taken turns in analyzing the reasons behind what is generally hailed as a new era in public service financing.

The New York Times says the rise is due to nothing more than the "natural result of expansion and improvement of service."

Under the heading, "Gas Stocks Come Into Public Favor," the Wall Street Journal notes that four out of six leading listed issues have reached new high levels for the year.

"Leaders in the gas industry," says this paper, "are of the opinion that the next few years will witness an advance in the utilization of gas by large industries which will result in consumption of both natural and manufactured gas moving forward at a rate which will be comparable to the expansion in use of electric power over the last decade."

While there has been a steady increase in the mean daily output of electric power during the past five years, says the Magazine of Wall Street, "the record of gas sales shows even greater stability. Since 1903, yearly sales of manufactured gas have increased consistently in each twelve-month period, rising from a total of but 100 billions to an estimated total of 350 billions. Certainly no serious setback is to be expected in this quarter."

"The big thing in gas stocks now," says the Wall Street Journal in another issue, "is the impetus being given to the business by industrial use of gas for heat.

"The attraction is to be found in the view now being rather widely held by gas men that manufacturing gas companies are entering one of the greatest eras of expansion yet witnessed in the industry. Any thought of 'saturation point' in consumption of gas has been dissipated by big growth in the last few years.

"Each year finds large additions to the list of industrial operations which are turning to gas as a dependable fuel, this conversion being stimulated greatly by the initiative of the gas companies in popularizing the efficiency of gas for manufacturing fuel."

Current Market Prices

COALS (By Courtesy of Coal Age)
A. Bituminous.

(Spot prices, F. O. B., mines, net tons).

High Volatile, Eastern	Market	Price
Pool 54-64 (Gas Standard)	New York	$1.40 to $1.65
Pittsburgh screened gas	Pittsburgh	2.30 to 2.50
Pittsburgh gas, mine run	Pittsburgh	2.00 to 2.25
Kanawha lump	Columbus	2.00 to 2.25
Kanawha mine run	Columbus	1.30 to 1.55
West Virginia lump	Cincinnati	2.15 to 2.50
W. Virginia gas mine run	Cincinnati	1.35 to 1.60
Midwest		
Indiana 4th vein lump	Chicago	2.75 to 3.00
Indiana 4th vein mine run	Chicago	2.25 to 2.50
South and Southwest		
Big Seam lump	Birmingham	3.00 to 3.25
Big Seam mine run	Birmingham	1.50 to 2.00
Southeast Kentucky lump	Louisville	2.50 to 2.75
Southeast Kentucky mine run	Louisville	1.25 to 1.75

B. Anthracite.

(Spot prices F. O. B. mines, gross tons).

	Market	Freight rates	Independent	Company
Egg	New York	$2.34	$8.50 to $9.40	$8.75 to $9.25
Egg	Philadelphia	2.39	9.00 to 9.70	8.80 to 9.25
Egg	Chicago (net tons)	5.06	8.17 to 8.27	8.14 to 8.20

COKE (By Courtesy of Iron Trade Review).

Connellsville, furnace	$3.00 to $3.25
Wise County, furnace	3.75 to 4.50
Alabama, furnace	4.50 to 5.00
Foundry, Newark, N. J., del.	10.41
Foundry, Chicago, ovens	10.75
Foundry, Boston, delivered	11.50
Foundry, St. Louis	11.00
Foundry, Granite City, Ill.	9.00
Foundry, Alabama	5.00 to 5.25

PETROLEUM (By Courtesy of Oil, Paint & Drug Reporter)

(Prices at wells, per bbl.)

Pennsylvania—Ohio—West Virginia.	
Cabell, West Virginia	1.45
Corning, Ohio	1.65
Lima	1.58
Pennsylvania	$2.75 to 2.85
Wooster, Ohio	1.40
Indiana—Illinois.	
Illinois	1.38
Indiana	1.39
Oklahoma—Kansas.	
Healdton	.90
Mid-continent (low gravity)	.85
Gulf Coast.	
Gulf Coast, Grade A	$1.25
Gulf Coast, Grade B	1.05

GAS OILS.

Gas Oil, Bayonne, bulk gal.	5 to 5¼c
Gas Oil (32-36) Oklahoma, gal.	2⅞ to 3c
Gas Oil (32-36) Gulf Coast, gal	3½ to 4

PIPE AND FITTINGS—CAST IRON GAS PIPE.

(By Courtesy Iron Trade Review.)

Four-inch, Chicago	$61.20 to $62.20
Six-inch and over, Chicago	57.20 to 59.20
Four-inch, Birmingham	56.00 to 59.00
Six-inch and over, Birmingham	52.00 to 53.00
Four-inch, New York	69.60 to 71.60
Six-inch and over, New York	64.60 to 65.60
Standard fittings, Birmingham, base	115.00

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20.

BY-PRODUCTS

(By Courtesy of Oil, Paint and Drug

Ammonia aqua, 16 deg. drums lb.	5 to 5¼c
Ammonia aqua, 20 deg. drums lb.	6¼ to 6½c
Ammonia aqua, 26 deg. drums lb.	6½ to 7 c
Ammonia squa, anhydrous cylinder, lb.	30 to 36 c
Ammonium sulphate, bulk F. O. B. Works, per 100 lbs.	$2.60 to $2.65
Potash prussiate, yellow casks, lb.	17 to 17½c
Potash prussiate, red casks, lb	37 to 38 c
Soda prussiate, yellow casks,	9½ to 10 c
Soda sulphocyanide, barrels, lb.	45 to 55 c

COAL TAR BASIC PRODUCTS.

(By Courtesy of Oil, Paint and Drug Reporter)

Benzol C. P. tanks, works, gal.	24 to 25c
Benzol, drums, gal.	30c
Benzol, 90% tanks, works, gal.	23c
Benzol, 90% drums, gal.	28c
Napthalene, flake, barrels, lb.	4½ to 5 c
Napthalene, dyestuff bags, lb.	4½ to 5 c
Solvent Naphtha, water white works, gal.	24 to 25c
Solvent Naphtha, drums, works, gal.	29 to 30c
Toluene. C. P. tanks, works, gal.	31c
Toluene C. P. drums, works, gal.	36c

Coal

Stimulated by the seasonal urge of cooler weather, the bituminous coal trade continues to show the steady advance that set in a few weeks ago. Prices are still climbing, the gains being due almost entirely to the increasing demand for the larger sizes, quotations for slack showing a marked downward tendency. The process of readjustment in general industrial conditions is still in evidence, and as a result consumers are buying carefully.

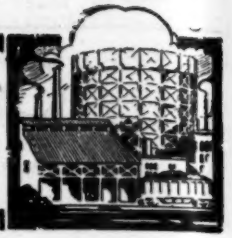
Crude Oil

Crude oil price reductions, which had been anticipated by the trade for the past fortnight, were put into effect last week when leading purchasing companies reduced their prices in the Midcontinent by 25 cents per barrel. A cut of 10 cents per barrel in Canadian crude was made early in the week, followed by a further cut of 15 cents per barrel two days later. Eastern grades, which were reduced at the close of the previous week, were again cut on Thursday of last week. Gulf Coast grades were also reduced on Thursday.

Gas Oils

While there was no change in the spot quotation, the market was showing an easy undertone, reflecting the reductions in crude oil prices, and the general weakening of the petroleum products situation.

NEWS OF THE GAS INDUSTRY



New Jersey Gas Association Holds Summer Meeting

The New Jersey Gas Association held its summer meeting at the Ocean City Yacht Club, Ocean City, N. J., September 19. There was no set program so far as papers to be read was concerned. Chairmen of various committees reported, followed by a general discussion on the future activities of the association.

During this year the association has been making a strong drive for new members. At this meeting 69 new members were elected, making a total membership of 818. The New Jersey Association now claims a larger membership than any other state association.

The entertainment committee, headed by C. E. Bartlett of Philadelphia, Pa., always supplies a variety of features to fit the inclinations of those attending the meeting, as evidenced by the following:

TAKE NOTICE

"The committee has bought a fishing line and arranged to put a fish in the bay. Those wishing to fish will be granted the full use of the above facilities in turn, in the order applications are received.

"Those wishing to indulge in African Golf are advised to deposit their return tickets with the committee as an irrevocable trust.

"The committee has arranged for the free use by members or guests of the Municipal Tennis Courts. The association racket is in charge of Chas. H. Ehrenzeller, who leads the singing.

"Quoits, baseballs, Atlantic Ocean and Great Egg Harbor may be used upon application to D. A. Worrell, of the committee.

"And that's all the committee will do. If you don't have a good time, the committee is sorry, but will do nothing about it."

After luncheon came the treasure hunt. We can explain this in no better way than to reprint the letter from "Captain Kidd."

"Being hotly pursued by a most ambitious frigate of His Majesty, Kink George of Great Britain and way stations, it seemed to be discreet that in the not-to-be-anticipated event of my vessel being overtaken, much treasure be not found. I resolved to elude my pursuers and slip into a little-known inlet and there bury my mostest choicest captures, whither I could repair at later leisure and recover them. This I did do most successfully.

"It later having been my most meloncolic fate to be apprehended by a dastardly rum chaser, whom in my much-to-be-regretted cups I mistook for an innocent hijacker, I am on the morrow to swing from the end of a yard-arm. I send this note by my faithful and unsuspected comrade, Long John the Gas Man, to a most trustworthy committee of the New Jersey Gas Association, which may be relied upon never to report save to those worthy of these treasures."

The various pieces of treasure were buried all over the landscape around the club house. Each treasure hunter was supplied with a wooden shovel and was advised to "dig." Your correspondent could not wait for the finish of the hunt, but it was evident that the landscape gardener of the club will have a steady job for a few days in repairing the damage to the grounds.

Committee on A. G. A. Laboratory Reports News of Customer Ownership Movement—Executive Board Meets

A report on the financing of the national appliance testing laboratory to be established by the American Gas Association, was made at a meeting of the executive board, Wednesday morning, September 17, by the committee which has been handling this subject. The laboratory committee met the day before the executive board at 2 o'clock in the afternoon.

At a meeting of the customer ownership committee, held on August 20, it was decided to send a questionnaire to all gas company members in an effort to gather some statistics on the progress of customer ownership in the gas industry, for publication at the convention. A letter, signed by Mr. Charles A. Munroe, chairman of the committee, was approved to accompany the questionnaire.

Customer ownership sales of gas company securities should be a permanent activity of gas companies rather than a sporadic campaign, according to Mr. H. E. Weeks. Special campaigns, he said, disrupt routine and organization. He also felt that it is well to have all employees feel it is part of their regular work to make stock sales.

Mr. W. T. Biedler suggested that stockholders' meetings held from time to time were valuable adjuncts to a policy of customer ownership, on the ground that it is equally important to retain stockholders as it is to secure them. Some companies, he reported, have a bulletin service to inform their stockholders of what their company is doing. As large a gathering as possible should be secured at the meetings, and, if necessary, moving pictures of the company's operations should be used to attract the public.

Factories which are large users of local gas for industrial purposes are fertile fields for customer own-

ership campaigns, and in this connection Mr. E. C. Scobell told of cases in which payments for gas company stock, purchased by factory employees, had been collected by the factory management and turned over to the company.

1925 Meeting of New England Association of Gas Engineers Announced

The 1925 convention of the New England Association of Gas Engineers will be held in Providence, R. I., at the Hotel Biltmore, February 18-19.

The Program of the Sixth Annual Convention of the American Gas Association Atlantic City, Steel Pier, Oct. 13-17, 1924

Entertainment Program

The entertainment committee announces the following program:

Tuesday Evening, October 14, 9 O'clock

Reception to the officers and informal dance in the convention hall at the ocean end of the Steel Pier.

The committee has secured for this evening Zez Confrey and his orchestra of twenty pieces, one of the famous Paul Whiteman units, to furnish the music for dancing.

Members and their guests will be admitted to the Pier on this evening on showing the convention badge.

Wednesday Afternoon, October 15, 1 O'clock

The association will entertain as their guests the ladies attending the convention at a luncheon and card party in the Submarine Grill of the Hotel Traymore.

Tickets for this function will be obtainable at the entertainment window of the registration desk on the Steel Pier up to 6 o'clock Tuesday, October 14, on presentation of the stub attached to the special invitation received by members at the time of registration.

Wednesday Evening, October 15, 9 O'clock

The Public Relations Symposium will be held on this evening in the Vernon room, Haddon Hall. In addition to the eminent speakers on the program of this meeting, the Madrigal Singers of Philadelphia will render a program of choral numbers.

Dancing will follow the conclusion of the meeting.

Thursday Evening, October 16, 8:30 O'clock

On this evening the association has engaged for its exclusive use the Globe Theater, the newest of the theaters on the Boardwalk, where a special all-star Keith vaudeville will be given. This theater party, composed exclusively of our members and their guests, should prove one of the most pleasant features of the convention.

Admission will be by ticket only (no reserved seats). These tickets will be on sale at the entertainment window at the registration desk on the Steel Pier up to 6 o'clock on Thursday, October 16. Price, $2 per ticket.

Golfing

Arrangements have been made with the Seaview Golf Club for extending the privileges of their course and club house to any of our members desiring to play during the convention week up to and including Friday, October 17. Cards of introduction will be available at the entertainment window at the registration desk on the Steel Pier. The regular club charges for greens fees, etc., will be made.

Program of Business Sessions

(General Sessions — Convention Hall, Ocean End of Steel Pier)

Tuesday Morning, October 14, 10 O'clock

Opening remarks by J. B. Klumpp, president, The United Gas Improvement Co., Philadelphia, Pa.

Report of Secretary-Manager Alexander Forward.

Report on membership, election of active (individual) members.

Report of Treasurer H. M. Brundage, Consolidated Gas Co. of New York.

Address by President J. B. Klumpp.

Report on amendments to constitution and by-laws committee, William J. Clark, chairman, Westchester Lighting Co., Yonkers, N. Y.

Report of nominating committee, H. A. Norton, chairman, Nathaniel Tufts Meter Works, Boston, Mass.

Election.

Report of time and place committee (1925 meeting), R. B. Brown, chairman, Milwaukee Gas Light Co., Milwaukee, Wis.

Address, "The Future of Gas Company Securities," John Moody, president, Moody's Investors Service, New York (for the accounting section).

Address, "Humanizing a Gas Company," Miss M. E. Dillon, manager, Brooklyn Borough Gas Co., Coney Island, N. Y. (for the publicity and advertising section).

EXECUTIVE SESSION

(Only Company Member Delegates Eligible to Attend)

Election of company members; election of directors; election of 1925 nominating committee; election of committee on resolutions.

Wednesday Morning, October 15, 10 O'clock

Report, Standardization of Gas Appliance Specifications Committee, W. T. Rasch, chairman, The A. H. Wolff Gas Radiator Co., New York.

Address, "Marketing Utility Service," Dr. Paul W. Ivey, professor of marketing, University of Nebraska, merchandising investigator, lecturer and counselor.

Report Education of Gas Company Employees Committee, by B. J. Mullaney, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Address, "House Heating," Charles A. Munroe, chairman of the board, Laclede Gas Light Co., St. Louis, Mo. (for the commercial section).

Report, Co-operation with Educational Institutions committee, W. Griffin Gribbel, chairman, John J. Griffin & Co., Philadelphia, Pa.

PUBLIC RELATIONS SYMPOSIUM

(Vernon Room, Haddon Hall)

Wednesday Evening, October 15, 9 O'clock

Entertainment by the Madrigal Singers of Philadelphia.

Address, "Customer Ownership —What It Has Accomplished So Far; Along What Lines Can It Be Extended, and How Can Its Fullest Benefits Be Realized by the Utilities," Martin J. Insull, president, Middle West Utilities Co., Chicago, Ill

Address, "Public Relations in Baltimore," C. M. Cohn, vice-president, Consolidated Gas, Electric Light & Power Co., Baltimore, Md.

Address, by a Public Service Commissioner.

Award, 1923 Meritorious Service medal, McCarter medals and Beal medal.

Thursday Morning, October 16, 10 O'clock

(Convention Hall—Ocean End of Steel Pier)

Report, Committee on President's Address.

Report, Committee on Resolutions.

Report, consolidated report of other general committees, Secretary-Manager Alexander Forward.

Aeport, Accident Prevention Committee, F: W. Fisher, chairman, Rochester Gas & Electric Corporation, Rochester, N. Y.

(Followed by demonstration of resuscitation by the Prone Pressure Method), A. J. Van Brunt, director, safety education, Public Service Electric and Gas Co., Newark, N. J.

Address, "What's Coming in the Heating Field," Floyd Parsons, Gas Age-Record, New York (for the industrial gas section).

Report — Customer Ownership Committee, Charles A. Munroe, chairman, Laclede Gas Light Co., St. Louis, Mo.

Address, "The Value of Industrial Research in Industry," Dr. E. R. Weidlein, director, Mellon Institute, Pittsburgh, Pa. (for the technical section).

Address, "How to Fail," E. D. Van Amburgh, editor and manager, The Silent Partner, New York (for the manufacturers section).

Closing remarks.

ACCOUNTING SECTION

(Vernon Room, Haddon Hall)

Tuesday Afternoon, October 14, 8 O'clock

Opening remarks and report of chairman, W. A. Sauer, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Nominating Committee, J. W. Heins, chairman, The United Gas Improvement Co., Philadelphia, Pa.

Election.

*Report of Exhibition Committee, P. D. Warren, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Committee on Analysis of Gas Company Statistics, H. J. LaWall, chairman, The United Gas Improvement Co., Philadelphia, Pa.

Report of Budget Committee, F. H. Patterson, chairman, Rochester Gas & Electric Corporation, Rochester, N. Y.

Wednesday Afternoon, October 15, 2 O'clock

Report of Committee on Relations with Customers, DeWitt Clinton, chairman, Worcester Gas Light Co., Worcester, Mass.

1. Customer and Employee Partnership in Public Utilities as It Relates to Security Holders' Records, E. MacMorris, The United Gas Improvement Co., Philadelphia, Pa.

2. Errors—Their Correction and Prevention, J. M. Roberts, The Peoples Gas Light & Coke Co., Chicago, Ill.

3. Improving Public Relations Through Employees Calling at Customers' Premises, W. H. Barton, Portland Gas & Coke Co., Portland, Ore.

4. Welfare of Employees as Affecting Relations with Customers, O. F. Potter, Public Service Electric and Gas Co., Newark, N. J.

Thursday Afternoon, October 16, 2 O'clock

Report of Committee on Uniform Classification of Accounts, W. J. Meyers, chairman, The United Electric Light & Power Co., New York.

Report of Insurance Committee, J. G. Reese, chairman, Consolidated Gas, Electric Light & Power Co., Baltimore, Md.

Paper, "Reducing the Gas Company's Printing Bill," R. A. Pettengill, Boston, Mass.

Report of Committee on Customer's Accounting, H. F. Frey, chairman, Allentown - Bethlehem Gas Co., Allentown, Pa.

Report of Committee on State Representatives, A. L. Tossell, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

*Booths Nos. 189, 190, 199 and 200 of the exhibition will be Accounting Section Headquarters during the convention. Open daily, 9 a. m. to 6 p. m.

COMMERCIAL SECTION

(Convention Hall, Ocean End of Steel Pier)

Tuesday Afternoon, October 14, 2 O'clock

Opening remarks by J. E. Davies, chairman, The Peoples Gas Stores, Inc., Chicago, Ill.

Report of Nominating Committee, A. P. Post, chairman, American Gas Co., Philadelphia, Pa.

Election.

Address by J. E. Davies, chairman The Peoples Gas Stores, Inc., Chicago, Ill.

Paper, "Development of Present and New Markets," Robert E. Ramsay, vice-president, James F. Newcomb & Co., New York.

Paper, "The Campaign Method of Merchandising," R. J. Canniff, sales promotion department, Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.

Paper, "Home Service" (cultivating public appreciation and building gas sales), Miss Ada Bessie Swann, superintendent home economics department, Public Service Electric & Gas Co., Newark, N. J.

Wednesday Afternoon, October 15, 2 O'clock

Address, "Sales Management and Organization," A. S. Goldsborough, secretary, Merchants and Manufacturers Association, Baltimore, Md.

Paper, "The Possibilities of Developing the Water Heater Business," F. L. Mendez, superintendent appliance sales, Philadelphia Suburban Gas & Electric Co., Chester, Pa.

Paper, "More Househeating Business," G. I. Vincent, manager, Syracuse Lighting Co., Syracuse, N. Y.

Paper, "Selling the Management

on Display," L. E. Lindsay, manager display section, The Peoples Gas Stores, Inc., Chicago, Ill.

Paper, "Compensation and Its Incentive to Greater Sales Effort," Thomas F. Kennedy, manager new business department, Henry L. Doherty & Co., New York.

Open discussion — Limited to three-minute talks which must be confined strictly to the subject—members entering the discussion are requested to discuss briefly and to the point the particular sales problem they wish to present.

Thursday Afternoon, October 16, 2 O'clock

(Meeting jointly with Commercial, Publicity and Advertising and Industrial Gas Sections). The chairman of each section will occupy the chair during the presentation and discussion of his sectional contribution to this session.

Paper, "Advertising and Its Relation to Sales Stimulation," Frank L. Blanchard, director public relations department, Henry L. Doherty & Co., New York (for the publicity and advertising section).

Paper, "Salesmanship and Advertising in Developing Present and New Markets," C. K. Woodbridge, president, Dictaphone Sales Corporation, New York (for the commercial section).

Paper, "The Industrial Gas Business," F. F. Cauley, manager, industrial department, The Peoples Gas Light & Coke Co., Chicago, Ill. (for the industrial gas section).

INDUSTRIAL GAS SECTION

(Gold Room, First Floor, Chalfonte Hotel)

Tuesday Afternoon, October 14, 2 O'clock

Opening remarks, H. H. Clark, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Nominating Committee, F. F. Cauley, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Election.

Report of Educational Committee, J. P. Leinroth, chairman, Public Service Electric and Gas Co., Newark, N. J.

Report of Progress and Development Committee, F. F. Cauley, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Reports on Industrial Booklets—"Ceramics," C. C. Krausse, industrial fuel engineer, Consolidated Gas Electric Light & Power Co., Baltimore, Md.; "Drying," J. Zander, industrial engineer, The Peoples Gas Light & Coke Co., Chicago, Ill.; "Food Products," D. A. Flynn, The Peoples Gas Light & Coke Co., Chicago, Ill.

Paper, "Gas Is Cheaper," J. H. Gumz, industrial gas engineer, Pacific Gas & Electric Co., San Francisco, Cal.

Paper, "New Developments of Industrial Gas Equipment," W. M. Hepburn, vice-president, Surface Combustion Co., New York.

Wednesday Afternoon, October 15, 2 O'clock

Reports on Industrial Booklets—"Forging and Heat Treating," W. D. Thompson, Northern Indiana Gas & Electric Co., Hammond, Ind.; "Metal Melting," W. M. Hepburn, vice-president, Surface Combustion Co., New York; "Tank Heating," Oscar Bowen, The Peoples Gas Light & Coke Co., Chicago, Ill.; "Heat Control," W. M. Hepburn, vice-president, Surface Combustion Co., New York.

Paper, "How to Solve the Industrial Gas Problems of the Small Gas Company," E. G. deCoriolis, industrial engineer, The Eastern Service Co., Boston, Mass.

Paper, "The Basis of Compensation for Industrial Gas Engineers," J. P. Leinroth, general industrial fuel representative, Public Service Electric and Gas Co., Newark, N. J.

Thursday Afternoon, October 16, 2 O'clock

(Joint session with the Publicity and Advertising and Commercial Sections).

MANUFACTURERS' SECTION

(Auditorium, Second Floor, Steel Pier, Boardwalk Front)

Monday Afternoon, October 13, 2 O'clock

Opening remarks, George W. Parker, chairman, Parker-Russell Mining & Manufacturing Co., St. Louis, Mo.

Report of Nominating Committee, F. A. Lemke, chairman, Humphrey Co. Div., Kalamazoo, Mich.

Election.

Report of Gas Appliance Testing Laboratory Committee.

Report of division chairmen—Accessories, H. A. Wilson, The H. A. Wilson Co., Newark, N. J.; Apparatus and Works, S. E. Fairchild, Jr., Cruse-Kemper Co., Ambler, Pa.; Gas Range, Chas. T. Aaron, Walker & Pratt Manufacturing Co., Boston, Mass.; Heating Appliance, Thomson King, Peerless Heater Co., Pittsburgh, Pa.; Industrial Appliance, Walter Whetstone, The Selas Co., Philadelphia, Pa.; Lighting Appliance, Townsend Stites, Welsbach Co., Gloucester, N. J.; Meter, J. D. McIlhenny, Philadelphia, Pa.; Office Labor Saving Devices, E. A. Norman, Elliott-Fisher Co., New York; Water Heater, W. M. Fowler, Lovekin Water Heater Co., Philadelphia, Pa.; Supply, J. J. Greene, Johns-Manville, Inc., New York.

New business.

PUBLICITY AND ADVERTISING SECTION

(Blue Room, First Floor, Chalfonte Hotel)

Wednesday Afternoon, October 15, 2 O'clock

Opening remarks and report of chairman, J. M. Bennett, chairman, The United Gas Improvement Co., Philadelphia, Pa.

Report of Nominating Committee, F. W. Crone, chairman, New York Committee on Public Utility Information, New York.

Election.

Address, "The Right of the Public Utility Company to Advertise," Leonard Ormerod, vice-president, Public Utilities Advertising Association, Philadelphia, Pa.

Symposium, "The Public Utility Information Committee Movement."

Thursday Afternoon, October 16, 2 O'clock

(Joint session with the Industrial Gas and Commercial Sections).

TECHNICAL SECTION

(Auditorium, Second Floor, Steel Pier, Boardwalk Front)

Tuesday Afternoon, October 14, 2 O'clock

Opening remarks and report of chairman, L. J. Willien, chairman, Charles H. Tenney & Co., Boston, Mass.

Report of Nominating Committee, F. C. Weber, chairman, Henry L. Doherty & Co., New York, N. Y.

Election.

Paper, "Best Type of Manufactured Gas Plant for Natural Gas Companies Required to Augment Failing Supplies of Natural Gas,"

Alfred Hurlburt, vice-president, Equitable Gas Co., Pittsburgh, Pa.

Report of Committee on Water Gas (carburetted and uncarburetted), J. S. Kennedy, chairman, Standard Gas Light Co., New York.

Paper, "Gummy Deposits in Gas Meters—Causes and Prevention," Dr. R. L. Brown, Bureau of Mines, Pittsburgh, Pa.

Wednesday Afternoon, October 15, 2 O'clock

Paper, "High Pressure Distribution," R. S. Fuller, engineer of distribution, Pacific Gas & Electric Co., San Francisco, Cal.

Report of Coke Committee, R. L. Fletcher, chairman, Providence Gas Co., Providence, R. I.

Symposium, "How Can Research Best Be Organized to Serve the Gas Industry?" (To be discussed from the standpoint of research in co-operation with technical universities and Government bureaus, research as conducted by the individual gas company laboratory, and finally the advantages of an association research laboratory).

Thursday Afternoon, October 16, 2 O'clock

Report of Carbonization Committee, E. H. Bauer, chairman, Worcester Gas Light Co., Worcester, Mass.

Report of Committee on Measurement of Large Volumes of Gas, M. E. Benesh, chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Committee on Disposal of Waste from Gas Plants, R. G. Porter, chairman, Philadelphia Suburban Gas & Electric Co., Chester, Pa.

Thursday Afternoon, October 16, 2 O'clock

(Parallel Distribution Session, Gold Room, Chalfonte Hotel)

Report of Distribution Committee, J. D. von Maur, chairman, Consumers Gas Co., Toronto, Ontario, Can.

Report of Committee on Standardization of Capacities of Consumers' Meters, Walton Forstall, chairman, The United Gas Improvement Co., Philadelphia, Pa.

Report of Committee on Cast Iron Pipe Standards, Walton Forstall, chairman, The United Gas Improvement Co., Philadelphia, Pa.

Thursday Afternoon, October 16, 2 O'clock

(Parallel Chemical Session, Blue Room, Chalfonte Hotel)

Report of Chemical Committee, Dr. A. R. Powell, chairman, Chicago By-Product Coke Co., Chicago, Ill.

Report of Sub-Committee on Purification, A. F. Kunberger, chairman, The U. G. I. Contracting Co., Philadelphia, Pa.

Report of Committee on Condensing and Scrubbing, F. W. Steere, chairman, Steere Engineering Co., Detroit, Mich.

Superior Meter Co. Increases Capital Stock

The Superior Meter Company of Brooklyn, N. Y., has again found it necessary to increase its capital, due to its increasing volume of business.

This concern has been most aggressive and during its twelve years of activity has demanded capital increases on three occasions.

Mr. Charles T. Howe of New York has recently become associated with the company and has been elected as its treasurer. Mr. Howe has had many years of successful activity as a principal in various manufacturing lines and brings to the company not only added financial strength, but also a business experience which will be of great value.

In January of this year the company moved to its present quarters, where it has facilities three times larger than it previously occupied, the result being that today it enjoys a position both from a standpoint of facilities and financially whereby it can handle business of any volume.

With the energy and close supervision to details practised by this company, we predict a continued rapid growth and success.

Contracts Awarded

The Chicago Bridge & Iron Works has received an order from the Electric Bond & Share Company for furnishing and erecting a 1,000,000 cubic feet gas holder at Miami, Fla., involving approximately 1,000 tons of plate work.

The contract contains two interesting features in that the bottom of the tank and the roof of the holder are to be welded, which is an innovation in this class of work and in addition an oil storage tank 240,000 gallons capacity is placed inside of the holder.

Contract for four gas holders for the Air Reduction Sales Company of New York has now been completed and the holders are in operation. These holders were installed at Birmingham, Ala., Baltimore, Md., Lima, Ohio, and Seattle, Washington. This contract was executed by the Western Gas Construction Company, Fort Wayne, Indiana.

The 500,000 cubic feet relief holder for the Montreal Light, Heat and Power Company, Montreal, Canada, has now been completed and is ready to go into service. This holder was built by the Western Gas Construction Company, Fort Wayne, Indiana.

The Byllesby Engineering and Management Corporation of Chicago, Ill., has awarded a contract to the Western Gas Construction Company, Fort Wayne, Indiana, for a large quantity of welded steel pipe in connection with their gas plant at San Diego, California.